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China Report

AGRICULTURE

No. 133

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AGRICULTURAL SCIENCES

HENAN NONGLIN KEJI [HENAN AGRICULTURAL AND FORESTRY SCIENCE AND TECHNOLOGY], No 6, 10 Dec 80 71

I. GENERAL INFORMATION

OPEN BIDDING FOR SPECIALIZED PROJECTS AROUSES PEASANTS' ENTHUSIASM

Example of Liwang Production Brigade

Beijing RENMIN RIBAO in Chinese 28 Jan 81 p 3

[Text] Liwang Production Brigade of Leqi Commune in a poor out-of-the-way mountain area of Xinchang County in Zhejiang Province has put into effect "bidding" methods with which the local masses are familiar.in brigade-run enterprises, winning very good results from them. Enterprises have universally changed losses into profits, and the longer they operate, the more prosperous they have become, giving new vitality to the economic life of this poor mountain village.

The mountain area of Xinchang County has always had a traditional form of competition among the masses, which the local peopled calling "downing," and "downing" was used in competitions to see whose skills were best. This brigade has nine brigade operated enterprises including processing plants for agricultural products, beancurd mills, and rabbit farms in which the system of responsibility has not been sound in the past. Most of the enterprises lost money for a long period of time and had become a "burden" for the brigade. Subsequently, the brigade decided to turn to account the methods of "downing," and instituted open "bids." The brigade proposed guidelines for contracting, taking into account the different situation prevailing in each of the brigade-run enterprises. For a week before bidding began, wired broadcasting and blackboard notices publicized the bidding to the masses so that commune members could think about, talk about, and seek out partners for cooperation. On the day of the bidding, the brigade convene a large meeting of commune members at which those commune members participating in the bidding placed on a table slips of paper on which they had written in advance the contract amount. These were announced before the group by officers in charge from the brigade, and whichever individual or group made the highest bid was publically announced as being the individual or group with which the contract would be made. The brigade then signed a contract with the contracting parties.

After Liwang Brigade instituted the bidding system, a rapid turnaround took place in brigade-run enterprises, and those with special skills who understood the work hurriedly "ventured" forth. Prior to 1979, the brigade's agricultural byproducts processing plant, run by four commune members, lost money virtually every year. Last year as a result of the brigade's institution of bidding methods, two commune members held discussions and contracted for the processing plant. Within a year, but even so four households wanted the contract. In the end, a commune member with experience in making beancurd, Wang Caidi [3769 2088 1717], contracted the work for 1,011 yuan. He worked hard and constantly thought of ways to improve the quality of bean products, and was still able to overfulfill profit quotas.

In its summary, Liwang Brigade also noted that future attention is required for the following. In setting profit quotas for bids, some leeway has to be allowed so that the contractor is able to overfulfill production to make a profit. As a matter of methodology, public competition is not advisable with a raising of quotas at each level. The unity of commune members has to be helped along.

Commentary on Ways to Maintain Competition

Beijing RENMIN RIBAO in Chinese 28 Jan 81 p 3

[Text] "Calling for bids," and "making bids" are methods frequently used in the industrial and building trades. Liwang Production Brigade in Xinchang County, Zhejiang Province has applied these methods, which are familiar to the masses, to brigade-operated enterprises to link contracting for specialized occupations and a system of responsibility that links remuneration to production with socialist competition among commune members. As a result, enterprises universally turned losses into profits, were run dynamically, and both the collective and commune members showed increased earnings. This is a fine experience.

After the party document on a strengthening and improving systems of responsibility for production in agriculture was handed down, contracting for specialized occupations and linking of remuneration to production as forms of a system of responsibility were further spread everywhere and were warmly welcomed by grassroots cadres and commune members. This was because these forms of a system of responsibility fairly well embodied the oneness of collective welfare and individual welfare, and were more helpful in arousing the enthusiasm for production of the collective and of individual commune members. However, in the promotion of these systems of responsibility, it is necessary to guard against the unhealthy tendencies of some cadres to treat contracted projects from which a profit stands to be gained as matters involving human sensibilities and parceling them out illicitly. In some places where such situations occured, new contradictions developed between cadres and the masses, weakening the role that this form of a system of responsibility should play. On issues of this kind, we must both intensify cadre indoctrination to correct their ideological styles and adopt some practical and effective measures.

The open bidding in brigade-run enterprises at Liwang Brigade was shown through practice to have numerous good points, the first of which was the relatively good way in which it solved this contradiction. Who it was that contracted for just what specialized project was not something that a minority of cadres said that settled matters, but was made public to all through mutual competition. Whoever came up with an advanced norm got the contract. In this way, the system of responsibility through contracting for special projects was subject to the scrutiny of the total body of commune members, was fair and reasonable, convinced everybody, protected the enthusiasm of the masses, and also protected proper competition.

Now in some communes and brigades where the system of responsibility through contracts for special projects is operating well, a new atmosphere has appeared.

under their administration the processing plant made a big change in its production. Not only were losses converted into profits with the stipulated profit quotas being tendered to the brigade, but each person also made more than 900 yuan profit. Formerly the processing plant had no system of responsibility. Whether it did a lot of work or a little work was all the same. When machines developed problems, repairs might take a week even though they could have been done within a day. After the two people made the contract, they meticulously maintained the machines. Repair costs for a year were cut by two-thirds; diesel oil consumption was cut in half; daily processing of grain more than doubled; quality of processing improved; and the attitude of service got better. Most of the nine enterprises for which the brigade contracted with commune members through bids this year have made remarkable changes.

In 1980, each brigade enterprise of Liwang Production Brigade continued use of the bidding method, and production of each enterprise has further risen. In the agricultural products plant, the beancurd mill, and the wheat mill alone, net profits of more than 3000 yuan have been made for a 50 percent increase over last year.

Recently Liwang Brigade summarized experiences during the past 2 years in promoting the use of bidding methods, noting that this was a good way to institute a system of responsibility in brigade-run enterprises and of developing socialist competition. Its advantages are as follows:

1. It helps uncover talent, makes the most of individual skills, results in people using their abilities to the fullest and materials being used to their fullest extent. It is also helpful in encouraging commune members to study techniques and learn management. The commune member who contracted for the processing plant, Yu Shuming [0205 2885 2494], for example, was a worker who had returned to the countryside from Hangzhou, who put his talents to use after participating in the contract. Some commune members are good at making beancurd, or are crackerjacks at raising rabbits. All can give expression to their skills, and each has a role to play.

2. It can prevent cadres from inserting friends and relatives into enterprises, achieving fairness and reasonableness in the use of people to cement relations between the cadres and the masses.

3. It smashes the "iron rice bowl" mentality in commune and brigade enterprises. Formerly, when anyone entered a brigade enterprise, it was as though he were entering a "strongbox." So long as he made no mistakes, he could not be transferred out. Now, when someone contracts for an enterprise, unless he immerses himself in the study of technology, and unless he increases production while lowering costs, and unless he improves the quality of services, he will lose money and will not be able to muddle along. Consequently, the personnel in enterprises have to unite to strive together to produce.

4. It can make enterprises' agreed upon work norms gradually approach reality and be more reasonable. For example, in the case of the brigade-run beancurd mill, a guaranteed output quota of only 650 yuan was set the year before last and the contractor made a great amount of profit, Last year it was raised to 800 yuan,

Various people with special talents have quickly appeared, and people are immersing themselves in technology, studying diligently and training hard, and striving to get ahead. The former relaxed habit of getting by through the egalitarian "eating out of a common pot" has been swept away. The socialist competition among the farmers that has been launched in the development of the collective economy as an overall goal is, without doubt, an exceedingly heartening phenomenon. It is exceedingly advantageous in the consolidation and development of the collective economy, and we should enthusiastically support and protect it. The methods instituted by the Liwang Brigade are effective actions for protecting this competition.

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CSO: 4007

'XINHUA' VIEWS NATIONAL METEOROLOGICAL CENTER

OW220300 Beijing XINHUA in English 0239 GMT 22 Mar 81

[Text] Beijing, March 22 (XINHUA)--China's National Meteorological Center in the western suburbs of Beijing has established contacts with its counterparts in many other countries since it went into operation early last year, announced the center on the occasion of the World Meteorological Day which falls on March 23.

It has received over 180 meteorologists and technicians from ten countries while 21 of its staff members have visited other countries on study tours.

The National Meteorological Center is housed in a nine-storey main building equipped with three large computers and auxiliary devices. Composed of a telecommunications hub, a weather analysis and forecast section and a climatological data section, the center collects and transmits information and data from hundreds of larger meteorological stations across the country.

It is also a regional center in the World Weather Watch Program (WWW Program) of the World Meteorological Organization (WMO). Through eight international meteorological telecommunications circuits, including the circuits connecting with Tokyo of Japan and Offenbach of the Federal Republic of Germany, it gets and handles meteorological data from all parts of the world and exchanges meteorological information and data with corresponding centers abroad.

With modern devices, the center is able to provide long-range, medium-range and short-range weather forecasts for home service, gives guidance to meteorological stations across the country, and provides predictions of synoptic weather situations in the northern hemisphere. The use of large computers has enabled the center to work out weather charts more quickly and accurately than before and issue warnings of severe weather well beforehand.

CSO: 4020

END TO WASTEFUL METHODS IN FOOD PROCESSING INDUSTRY DEMANDED

Beijing RENMIN RIBAO in Chinese 30 Jan 81 p 2

[Article by Chen Jiwen [7115 4949 2429], "Need For Serious Attention to Development of Food Processing Industry."]

[Text] If for every 100 jin of unprocessed food grains an average 3 to 5 jin more of finished product grain could be produced, on the basis of corrected calculations of total figures for grain processed by rural commune and brigade grain processing plants throughout the country in 1979, the increased output of finished product grain for a year would amount to 20 billion jin in terms of unprocessed food grain.

Increasing grain output to solve China's grain shortage is a serious task that we face. Accomplishment of this tasks requires, most fundamentally, reliance on efforts to develop grain production. At the same time, it is also necessary to take effective action to reduce various forms of waste of grain once it has been harvested from the fields through special attention to the development of the grain processing industry in an effort to increase the existing grain utilization rate.

Grain processing plants presently operated by grain units extend virtually to every city and every part of the countryside in China, and the quantity of food grain that they annually process amounts to 20 percent of the total amount of grain processed in the country. They assure a supply of finished product grain to the population that is not engaged in agriculture, and the needs of industry for grain as well. They also help some communes and brigades that lack processing capabilities to process consumption grain for commune members. The large number of semi-mechanized small grain processing plants operated by rural communes and brigades annually use either machine processing or indigenous methods to process a quantity of unprocessed grain that amounts to 80 percent of the grain processed throughout the country.

A look at the present situation in China's grain processing industry shows the simultaneous existence of advanced and antiquated processing equipment and technology, with a great gap in their economic effectiveness. A comparison of the two shows a difference of about 5 jin in the amount of processed grain products per 100 jin of unprocessed grain can yield an average additional 3 to 4 jin of processed grain. Using corrected total figures for grain processed by rural commune and brigade grain processing plants throughout the country, the annual increased output of finished processed grain would convert to about 20 billion jin of unprocessed grain, the equivalent of 20 million mu of fine fields producing 1000 jin per mu. Such an astounding source of grain! Therefore, the planned, step-by-step development of the grain processing industry is truly very necessary.

Some problems still exist in the grain processing industry, foremost of which is an irrational pattern of distribution of grain processing plants in which production capacity and production tasks are not coordinated. In most grain processing plans, equipment is old, technology backward, energy consumption heavy, product quality inconsistent, output rate low, and costs high. Scientific research, production technology, and education and management structures for grain processing are not sound, and various kinds of specialized personnel are lacking, etc.

The grain processing industry is closely bound up with state planning and the peoples' livelihood. In terms of its character, it should be a part of the food industry. In a thorough readjustment of programs, it should be given priority development in the same way as light industries and the textile industry. Moreover, for various reasons including its system of management, the grain processing industry falls into the category of an industry that is industrial yet not industrial, agricultural yet not agricultural, and commercial yet not commercial. I believe the long standing practice should be changed whereby grain units have been responsible solely for the processing of commodity grain when in fact they rarely concerned themselves with anything but "processing grain for agriculture" in rural villages. Development of state and rural village commune and brigade grain processing industries should be placed on a footing commensurate with development of grain production, and the grain processing industry should institute management for revival. Readjustments should be made in the pattern of distribution of the grain processing industry following investigation and study and following rational economic principles so that production capacity and production quotas will be gradually coordinated to take full advantage of advanced equipment and technology, and avoid duplication in plant construction and blind development.

While thorough going readjustment in programs for mechanization of the industry are underway, the currently separately managed mechanized grain mills should be organized into a specialized company that is national in character on the principle of specialized cooperation, and should, under the guidance of the state plans, institute unified management or echelon by echelon management, intensify scientific research and the introduction of technology, and test manufacture various kinds of grain processing machinery currently needed urgently in production that are high in efficiency, high in quality, low in energy consumption, low in cost, and reasonable in price, the better to serve development of the grain processing industry.

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AGRICULTURAL BANKS AID FARM SECTOR

Less State Investment; More Self Reliance

Hong Kong ZHONGGUO XINWEN in Chinese 17 Jan 81 pp 2-3

[Text] Tasks in readjustment of the national economy during 1981 for the Agricultural Bank as put forward by the Chinese Bank of Agriculture All-China Branch Managers Conference concluded today were: intensification of credit controls, active formation of capital, care in the use of working capital, support to rural livestock raising, sideline industries, and fisheries, support to combination agricultural, industrial, and commercial enterprises, development of commodity production, and increased economic benefits to win an all around bumper harvest in agriculture.

During this year's readjustment of the national economy, agriculture must be given comparatively great development for a 5.7 percent increase in total output value. The Bank of Agriculture, acting in the capacity of a specialized bank for the support of agricultural development carries a major load in the development of agriculture.

Under present circumstances of restricted national financial resources, development of agriculture rests largely on policies and agricultural science. State investment in agriculture this year will be less than last year, amounting to about 14 percent of the total amount of national investment. Loans provided agriculture by the Bank of Agriculture, however, will remain at the annual levels of increase of the past several years. Funds available for use from rural credit cooperatives may be somewhat more than last year. If managed flexibly and with increased speed of turnover, the funds from these three sources will show a total increase over last year. This is an advantageous circumstance for the development of agriculture.

At the branch manager's conference, Chinese Bank of Agriculture deputy manager Wang Haifeng [3769 3189 6265] called upon each jurisdiction to be diligent in management of funds, using money where it will do the most good to increase production. He asked for an intensification of management of rural credit, and support for supply and marketing units to do a good job of commodity supply in advance of the autumn harvest.

With regard to loans to commune and brigade enterprises, and medium and short term equipment loans, the Bank of Agriculture adopted rather stringent control measures in order to avoid duplication in construction. Continued expansion of the scale of capital construction as well as support to rural farming industries and aquatic breeding industries are to be the principal purposes for which loans will be granted.

During the past two years the amount of idle funds in rural villages has increased, and the amount of currency in possession of the masses has increased. The Bank of Agriculture also wants to vigorously soak up rural savings to increase its capacity to make loans. At the same time, it wants to get control over the rural currency market in order to prevent and strike down various illegal activities that are disturbing rural currency markets.

Increased Loans For Minorities, Border Regions

Hong Kong ZHONGGUO XINWEN in Chinese 17 Jan 81 pp 2-3

[Text] According to reports from the Conference of Branch Bank Managers of the Chinese Bank of Agriculture, the Bank of Agriculture will continue this year to increase loans to old revolutionary bases areas and minority people areas, border provinces and areas, and to individual economically backward areas to help them revive and develop production, and effect rapid changes in their appearance.

China is a vast area in which economic development is very uneven. For a long period of time and for various reasons, life has been very difficult for the people in old revolutionary bases, in areas inhabited by minority peoples, in border provinces and regions, and in some areas that have been slow in developing production. The People's government has been very solicitious about the construction of these areas during the past several years, and has already taken actions of various kinds to help the governments and peoples in these areas to overcome hardships as a result of which their economic situations have begun to take a turn for the better. However, local financial resources are limited, and numerous difficulties still exist in the revival and development of production within a fairly short period of time.

In order to help the economic construction of these areas, the Bank of agriculture has this year specially allocated 200 million renminbi of agricultural loan funds for use in making agricultural loans to increase loans to these areas. These funds plus agricultural loans by each province and other funds will free up the capital situations in these areas, thereby, it is hoped, bringing about gradual changes in their situations and improvements in the lives of the people.

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FISHING FACILITIES THREATENED BY GEZHOU DAM

Beijing RENMIN RIBAO in Chinese 18 Feb 81 p 2

[Article by Correspondent Wang Zhongren [3769 6988 0086]: "Protection of Yangtze River Fish Resources Will Brook No Delay; An Investigation of the Problem of Facilities to Permit Fish Passage Through the Gezhou Dam"]

[Text] Editor's Note: An article published in this newspaper on 4 January "Gezhou Dam, Pivotal Water Conservancy Project," said the following about the issue of the passage of fish through this project: "It will permit migratory fish in the Yangtze River to pass through the dam for spawning, reproduction, and growth. They will flow against the stream toward the Jinsha Jiang, and with the stream toward the East China Sea in free and unrestricted movement." Following publication of this article, the Yangtze River Basin Planning Office sent a letter to the newspaper pointing out that this passage was not in accordance with the facts. The National Aquatic Products Bureau also pointed out that the pivotal water conservancy project, Gezhou Dam, currently under construction, must inevitably destroy the ecological environment of the Yangtze, and face the Yangtze River fishing industry with a serious crisis. They called for immediate action for a fish rescuing project at the Gezhou Dam without any further delay.

The above views demonstrate that the matter of fish passage has been not solved by any means. In order to clarify the true facts, this newspaper's correspondent has made a survey of units concerned.

Yangtze River Fish Must Be Protected

The Yangtze River Basin is the most highly developed fresh water fishery area in China. The area of water flowing through various provinces amounts to 47 percent of the inland water area of the entire country, and two-thirds of all freshwater fish caught in the country come from it. In maximum years, it accounts for 73.5 percent of all freshwater fish caught in the country. Output of fish per kilometer in the Yangtze is threefold the output from the Yellow River, and seven times the output of fish from the Heilongjiang. The Yangtze River Basin has a total of more than 260 varieties of fish, or one-half the fish varieties in the country. The position of the Yangtze River with regard to natural fish fry is even more important.

The Yangtze River's valuable and exotic fish and aquatic organisms are famous throughout the world. At the present time only 400 to 500 Chinese sturgeon can be caught. The white sturgeon is even rarer than the Chinese sturgeon. This variety can now be found only in the United States and China, and it spawns in the upper reaches of the Yangtze River. Baijitun [4101 2555 6270] are even more valuable and exotic creatures whose population is now less than 100.

Protection of the ecological balance of the Yangtze River Basin is a major matter relating to China's national planning, people's livelihood, and the creation of wealth for posterity, and it is also a matter with which the scientific community and economic community of all countries are concerned. It should be given a high degree of serious attention and most certainly not be neglected.

Data from foreign countries show that the construction of water conservancy projects along rivers frequently results in the loss of from 39 to 75 percent of aquatic products. Therefore, at the time of construction of water conservancy, numerous countries give close attention to construction of facilities for the fish to pass in an effort to maintain the ecological balance. Since the founding of the Chinese People's Republic, more than 45,000 reservoirs or river dams have been built along the rivers of China as well as more than 7000 floodgates, virtually all of them without consideration of the problem of the migration of fish or crustacea, with the result that the Yangtze River's freshwater fish output has declined from the 450,000 tons of the 1950's to the present 200,000 tons.

Some experts predict that unless facilities are built to rescue the fish at the pivotal Gezhou Dam water conservancy project and at the great Sanxia Dam, which is being planned, following construction, the fish that migrate between the river and the sea will become extinct. The eels within Sichuan Province will be completely wiped out, and between 60 and 70 percent of the spawning grounds for the four great families of fish, black carp, grass carp, silver carp, and variegated carp will be destroyed. In the case of the possible extinction of some valuable fish the consequences will be serious.

Furthermore, on the basis of the lessons learned in other countries, destruction of the Yangtze River's fish resources may impact on the fish resources in ocean areas close to the mouth of the Yangtze.

Many Years of Controversy and Inability to Come to a Decision

At the outset of planning for the Gezhou Dam project in 1970, acting in accordance with Comrade Zhou Enlai's instructions to make it a project to prevent floods, generate electricity, permit navigation, provide irrigation and serve the fishing industry, and Comrade Mao Zedong's instructions to save the fish in the construction of the project, the plan for the pivotal Gezhou Dam water conservancy project as approved by the Central Committee contained facilities for the passage of fish, and it also contained a budgetary estimate of the investment required. Nevertheless, these facilities were not actually put into place. A long period of controversary has taken place between water conservancy units and aquatic products units, and they are still arguing back and forth.

A report prepared by the Gezhou Dam Project Technical Commission for presentation to the State Council on 24 December 1980 proposed elimination of the fish channel while retaining the project investment funds in the project budgetary estimate for use principally in the following three ways: development of artificial breeding of fish, concentration and transportation of fish, and seining.

The National Aquatic Products Bureau believed that the proposal to eliminate facilities for the transit of fish was a mistake, or at least unwise. It steadfastly continued to argue on just grounds.

The "Regulations for the Protection of Reproduction of Aquatic Product Resources" promulgated formally by the State Council in 1979 clearly rules against interdicting a migratory passageway for fish in the construction of water conservancy projects and the construction of floodgates or dams are required to provide for commensurate construction of facilities for the passage of fish. In March 1980, the State Council again approved for circulation a document from the Ministry of Finance, the Ministry of Water Conservancy, and the National Aquatic Products Bureau reasserting strictures against capricious interdiction of channels for migrating fish in the construction of water conservancy projects. The aquatic products sector believed that laws were made to be enforced.

Between 6 and 9 January this year, the Gezhou Dam Project Technical Commission held its 12th conference in which 80 people participated in discussions. The issue of facilities for the passage of fish was again discussed but no decision was made.

Need for Responsibility Toward Posterity

The building of fish channels to aid in saving aquatic creatures at the time rivers are interdicted is nothing new. The year 1909 saw the "Dannier [0030 3136 1422] [phonetic] type" fish ladder abroad.

More than 40 fish channels have been built for the rescue of aquatic creatures since the founding of the People's Republic. Last year at the Yangtang Hydropower Station in Hunan Province, an attached building fish concentrating system passed an average 2600 fish per hour, which following approval reached advanced domestic standards. Provisions at the Gezhou Dam originally called for construction of machinery to lift fish in the main course of the river, construction of fish channels in the secondary courses of the river, and artificial breeding and seining as auxilliary methods. Were the planned program as originally approved by the Central Committee in 1970 to be put into effect, the issue of a fish passage at the Gezhou Dam would be solved in a rather ideal way. If by chance, the issue is decided poorly, a way out should be allowed with the focus of attention being fixed on responsibility to posterity.

Construction is already complete on the secondary water courses and construction of a passage for fish is no longer possible there. The only way for rescue now is to construct a system for the passage of fish simultaneous with the building of power plants and boat locks at the time the flow of the main channel is interdicted. If this is not done, and construction is delayed until after the generators begin to generate electricity and have to be shut down again in order to build a channel for the fish, even greater economic losses will inevitably ensue.

Recently Pan Rong [3382 2837] and 17 engineers and technicians of the National Aquatic Products Bureau as well as industrial and agricultural workers have written letters to this newspaper and to units concerned urgently calling for Yangtze River fish to be saved and to solve as soon as possible the problem of a fish passage at the Gezhou Dam. Research, prospecting, and design organizations have done a lot of work in the past on the hydrology, landforms, and aquatic products, so conditions for solution of this problem are at hand. The problem lies in the need for authorities concerned to make concerted efforts, to coordinate their actions, and make a prompt decision. This problem certainly cannot drag on any longer.

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EFFORTS MADE TO OVERCOME FISH SHORTAGES

Beijing RENMIN RIBAO in Chinese 19 Feb 81 p 2

[Article by Correspondents Hu Liebin [5170 3525 2430] and Tian Zhuang [3944 8369], "Water Surfaces Should Be Used in the Same Way as Cultivated Land"]

[Text] That "land of fish and rice," Hubei Province, has had a shortage of fish in recent years. Here are 7 million mu of lakes, reservoirs, and ponds in which fish can be raised. If further readjustments are made in fishing industry policies to make full use of existing water surfaces, tremendous growth can take place in the freshwater fishing industry.

That Hubei Province, the "land of fish and rice" should have a shortage of fish to eat in recent years cannot be anything but strange. In 1979, for example, the national average of fish per capita was 8.7 jin, but in Hubei Province, the per capita average was only 5.2 jin, and in some outlying hill and mountain regions, there was no fish to be tasted all year long.

The situation of "food fish difficulties" is by no means unchangeable. All that is required is serious attention to the fishing industry and proper management, and without much investment and without waiting for a long period of time, fairly rapid development of the freshwater fishing industry is entirely possible.

There are many reasons for the food fish difficulties in Hubei. For example, to talk about rice rather than fish, some places went in big for "enclosing lakes to create fields," causing a tremendous decline in lake surfaces. Immediately following Liberation, there were 1,056 large and small lakes throughout the province, with a water surface of more than 12 million mu. By 1979, only somewhat more than 300 lakes were left with a water surface of 3.12 million mu, for a decline of more than 74 percent. Another example has been construction of water conservancy without concern for the fishing industry. According to incomplete statistics, 1, 214 embankments or irrigation and drainage gates have been built since Liberation along the rivers and lakes of the province with no thought having been given to passageways for fish to enter and leave rivers and lakes, thereby cutting off the rivers from the lakes causing a decline in resources. Worse yet, some people criticized mass efforts to raise fish as being capitalistic, thereby forcing the fishing industry into dire straits, etc.

Despite the tremendous reduction in lake water surfaces throughout the province, the construction of more than 6000 reservoirs since Liberation has increased water surface for the raising of fish by more than 2 million mu. Thus, in addition to river water surfaces, almost 7 million mu of water surface exists on lakes, reservoirs and ponds for the breeding of fish. This amounts to a useable water surface that is one-tenth of inland fresh water throughout the country, and is second only to that of Anhui Province. With such a large water surface area, with further readjustment of fishing industry policies to solve practical problems, there is great hope for Hubei's fishing industry.

Vigorous Development of Mass Fishing Raising Enterprises

Huanggang Prefecture has given relatively serious attention to its collective fishing industry, placing emphasis on the breeding of fish in ponds. Numerous communes and brigades have used existing ponds and reservoirs in a contracting with work teams, households, or private individuals for the raising of fish, so revival and development of the fishing industry has been quite fast. Jingzhou Prefecture is a relatively spacious place with numerous abandoned ditches and channels, which are good for household fish raising. In the spring, commune members put small fish fry into fishponds, hauling out mature fish in the winter. By eating some of them and selling some of them, they both increase commune member income and enliven the city and countryside markets. Provincial authorities concerned have promoted experiences by households in raising fish, and last year the number of households in the province engaged in raising fish increased to 220,000.

Someone has made the following calculations. There are 1.5 million mu of ponds throughout the province, and if all were used to grow fish, yields would amount to 300 jin per mu. About half of more than 8 million peasant household have conditions for raising fish, and if each household averaged 0,1 mu of water surface, yields would be 500 jin per mu. Added up, this would amount to more than 500 million jin, equivalent to 2.5 times the province's total output of fish during the year before last. Attainment of such an output is by no means very difficult so long as methods keep up. For example, strengthening of administration and management, institution of a system of responsibility linked to production, contracting with work teams, household, and individuals, liberalization to permit collectives and households with requisite conditions to raise fish, and renovations of groups of ponds over a period of time, thereby both helping irrigation and helping the raising of fish. In the renovation of a mu of pond, commune members would be happy to do the work if given a little support by the state or the local government. This would be a great saving over the digging of a new pond to raise fish, and benefits would also accrue more rapidly. As communes and brigades produce more fish, an increase in commodity fish will also occur; state fisheries will find their local marketing and sale burdens lightened, and there will be a rapid increase in the tendering of mature fish to the state.

Overall Planning Taking All Factors Into Account For the Use of Large and Medium Size Water Surfaces.

In Hubei Province today, most of the unused water surfaces are on large lakes and large reservoirs. The main reasons for this state of affairs is conflicts between one organization and another, or between one jurisdiction and another. Simply by strengthening leadership, doing overall planning taking all factors into account, and emphasizing science and the large water surfaces will rapidly increase their output of fish.

Use of large water surfaces will not necessarily entail large amounts of investment. In the case of lakes, for example, mostly all that is necessary is a restoration of passage between rivers and lakes. Most fish are accustomed to reproducing in running water, so if in the construction and management of water conservancy attention is given to the fishing industry by preserving a passageway for migratory fish in time as the "running rivers carry fry," large numbers of fish fry and fingerlings will enter the lakes, obviating the need for stocking them with fish and the required large amount of investment therefor.

When large water surfaces straddle counties and prefectures, they frequently cause a lot of bickering. But such problems are not difficult to solve either. One example is the Niulang Lake, which straddles the two provinces of Hunan and Hubei. Congan County in Hubei and Li County in Hunan used to bicker about the use of water surfaces here for the raising of fish until annual output from the entire lake fell to 30,000 jin of fish. Later on, the two counties made a compromise agreement, parlayed together and administered the lake together, so fish output increased to more than 400,000 jin. This shows that when the overall situation is taken into consideration and there is a minimum of supervision, the fish output from large water surfaces can go up and everybody benefits.

The situation for large reservoirs is not entirely the same as for large lakes. Reservoirs require an appropriate amount of investment and artificial stocking with fish. Some reservoirs cannot be operated alone but require joint methods of operation.

Rapid improvement in the freshwater fishing industry poses numerous additional problems requiring solution, and some of them require time. But the most urgent is that leaders place the fishing industry in the position that it deserves, giving it their full attention.

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'INDUSTRIALIZATION' OF CHICKEN RAISING MOVING FAST

Hong Kong ZHONGGUO XINWEN in Chinese 25 Dec 80 pp 1-2

[Article: "Rapid Development of China's Industrialized Chicken Raising Enterprises"]

[Text] While developing chicken raising by members of rural communes, the industrialization of chicken raising has also developed rapidly in China. During the past 3 years, several hundred industrialized chicken farms have been newly built throughout the country.

Prior to 1977, chicken raising in China was done mostly by the myriad households of commune members in rural areas, and the coming into being of industrialized chicken raising farms marked a breakthrough in the old method of raising chickens. Now industrialized chicken farms are being operated everywhere in the country with the exceptions of the four provinces and regions of Qinghai, Gansu, Jiangxi, and Tibet. Beijing, Shanghai, Guangshou, and Shenyang run the largest number, and on the largest scale as well. More than 50 chicken farms throughout the country have chicken flocks of more than 100,000 chickens; however, some farms have only several thousand, and the degree of mechanization of the farms varies from one to another.

These chicken farms have already begun to provide chicken and eggs to markets, and the chicken and egg supply situation has improved for many cities. The Beijing Hongxing Chicken Farm, which went into formal production last year, feeds 190,000 layers annually and produces 4.58 million jin of eggs to account for 10 percent of the quantity of fresh eggs procured by the state from Beijing municipality while at the same time supplying 500,000 jin of chicken meat to the market. This year Beijing's large industrialized chicken farms produced 11 million jin of fresh eggs, amounting to 23.1 percent of the quantity of fresh eggs procured by the state from Beijing municipality. At the present time, Beijing has three chicken farms with a capacity of from 200,000 to 250,000 chickens either under construction or already in being. Once all these chicken farms have been completed and are in production, they will be able to provide markets with more chicken and eggs annually.

In order to develop industrialized chicken farms, Beijing has set up special breeding stock breeding farms and growing farms, which will uninterruptedly supply every chicken farm with high producing laying hens.

China is a country with extremely abundant domestic fowl varieties including the famous Langshan chickens, Shouguang chickens, and Simao chickens for a total of more than 60 superior chicken varieties. Throughout the broad expanse of rural villages, every commune member household raises chickens, and last year commercial units purchased 1.67 billion jin of fresh eggs, the highest number in history. However, as a result of China's currently still low level of scientific chicken raising and modernized chicken raising, both egg and meat output are relatively low. Development of industrialized chicken raising will further promote development of chicken raising in China.

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BRIEFS

SHANDONG, HUBEI AFFORESTATION--Beijing, 21 Mar (XINHUA)--As of 13 March Shandong Province had planted over 160,000 mu of forests and more than 54 million saplings around houses and villages and by roadsides and watersides. As of early March, Hubei had planted over 2.23 million mu of forests and more than 153 million saplings around houses and villages and by roadsides and watersides. [Beijing XINHUA Domestic Service in Chinese 0244 GMT 21 Mar 81 OW]

FOREST INSECT SYMPOSIUM--Kunming, 26 Mar (XINHUA)--A symposium to discuss forest insect control was held in mid-March in Kunming Municipality, Yunnan Province, by the China Entomology Society. At the symposium, Cai Banghua, a 79-year-old expert entomologist and director of the Zoology Institute of the Chinese Academy of Sciences, proposed that forests of mixed varieties instead of only one species of trees be built so as to maintain a balanced ecosystem and to avoid serious insect pests. He pointed out that in the past no attention was given to ecological balance, and a number of forests composed of pine trees only were planted. The result was the vigorous propagation of pine caterpillars. During the last decade about 40 million mu of pine forests in China each year were subject to damage by pine caterpillars, and the loss of timber caused by this insect pest is estimated at some 3.7 million cubic meters annually. In addition to building mixed-species forests, he suggested that biological, physical and chemical methods be used to control forest insect pest, but with biological control as the principal measure. [Beijing XINHUA Domestic Service in Chinese 0200 GMT 26 Mar 81 OW]

INSECTICIDE TRAINING CLASS--A training class on insecticides, jointly sponsored by China's Ministry of Public Health and the World Health Organization, opened in Shanghai on 23 March. Some 50 scientific and technological workers from all parts of China are participating. The training class will end on 1 April. [Shanghai City Service in Mandarin 1130 GMT 23 Mar 81 OW]

SHEEP DISEASE CONTROL--Yinchuan, 23 Mar (XINHUA)--China for the first time succeeded in artificial culture of schizomycete of the Taylor piroplasma [tai le jiao chong lie zhi ti 3141 0519 3542 5722 5933 2994 7555] in sheep, thus laying the foundation for developing a vaccine for treatment of the parasitic protozoon in sheep's blood. The Ningxia and Gannan animal husbandry and veterinary research institutes jointly developed the schizomycete. [OW261415 Beijing XINHUA Domestic Service in Chinese 0015 GMT 23 Mar 81 OW]

RICE, FISHERY, FRUIT CONFERENCE--The State Scientific and Technological Commission held a forum on paddy rice, freshwater fish culture and fruit production in Changsha 10-13 March. Present at the meeting were 85 delegates from Guangdong, Guangxi, Zhejiang, Jiangsu, Fujian, Jiangxi, Hubei, Hunan, Shaanxi, Sichuan and Beijing. Tong Dalin, vice minister of the commission, presided over the meeting. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 14 Mar 81 OW]

NEGOTIATED GRAIN PURCHASE--Beijing, 11 Mar (XINHUA)--The Ministry of Food recently held a meeting on negotiated purchase and marketing of grains and edible oil in Beijing. The meeting called for promoting negotiated purchase and marketing of grains and edible oil to regulate market demands, check market prices and deal a blow at speculation and profiteering. Since the 3d Plenary Session of the 11th party Central Committee, country fairs have been restored, and negotiated purchase and marketing of grains and edible oil--after the fulfilling of state purchase quotas--have been promoted in various localities throughout the country. From April 1980 to October 1980, the amount of grain purchased through negotiation reached some 11.8 billion jin, while the amount marketed reached some 7.6 billion jin. The amount of edible oil purchased reached some 530 million jin, and the amount marketed in the same period reached some 210 million jin. All these figures surpasses the amounts purchased or marketed in all of 1979. The meeting also discussed how to promote negotiated purchase and marketing of grains and edible oil to facilitate readjustment of the national economy. [Beijing XINHUA Domestic Service in Chinese 1235 GMT 11 Mar 81 OW]

HERBIVOROUS ANIMAL BREEDING--Beijing, March 19 (XINHUA)--More than 60 Chinese specialists have called for large-scale breeding of meat- and hide-producing animals, including cattle, horses, donkeys, geese and rabbits, using grass-covered hills and crop stalks, reports the PEOPLE'S DAILY today. Experts from agricultural and animal husbandry departments across China met in central China's Zhengzhou city on March 4 through 7 for discussions sponsored by the State Scientific and Technological Commission. They recommended special organizations administered by both the central and provincial governments be set up to preserve and propagate the breeds. Among the measures suggested by them are the spread of artificial insemination, storage of fresh maize stalks, the use of urea as supplementary fodder, and the development of fodder processing and fine forage grasses. [Text] [Beijing XINHUA in English 1247 GMT 19 Mar 81 OW]

PEASANTS WANT CONSUMER GOODS--Beijing, March 11 (XINHUA)--The WORKER'S DAILY today carries a letter from a peasant reader requesting manufacture of more bicycles, sewing machines and wrist watches. The writer, Niu Liancheng of the Xibali commune in Huailai County, Hebei Province, says that commune members now have more cash in their hands thanks to the party's rural economic policies. Besides food and clothing, they want to buy watches, bicycles and sewing machines. But he complains these modest demands still cannot be met. "Our commune has more than 4,000 peasant households," he writes. "But only a few dozen bicycles are allocated to our commune for sale each year. If 1,000 bicycles and 1,000 sewing machines were put on sale in our commune, they would be sold out in no time." [Text] [OW110724 Beijing XINHUA in English 0704 GMT 11 Mar 81]

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BRIEFS

HUOQIU COUNTY COTTON--Huoqiu County, Anhui, has twice deep-plowed the 180,000 mu spring-sown cotton fields in the county so far. Soil in furrows of rape fields designated for planting cotton as a companion crop and of wheat fields has also been plowed in depth. The county made arrangements as early as last autumn to plant 210,000 mu of cotton this year. [OW271031 Hefei Anhui Provincial Service in Mandarin 1100 GMT 25 Mar 81 OW]

TONGLING COUNTY COTTON--Tongling County, Anhui, has made good preparations for planting 40,000 mu of cotton this year. The crop is planted in five communes and townships and takes up one-seventh of their cultivated land. [OW271031 Hefei Anhui Provincial Service in Mandarin 1100 GMT 25 Mar 81 OW]

TIANCHANG COUNTY AGRICULTURE--Since 1977, Tianchang County, Anhui, has reaped a good harvest every year. Grain output has increased at an average annual rate of over 6 percent, and considerable development has also been achieved in the production of oil-bearing crops, cotton and other cash crops and in forestry, animal husbandry, sideline production and fishery. The county's grain acreage is being kept stable at 720,000 mu, or 78 percent of the total area of cultivated land, and the acreage of cash crops has been increased from 220,000 mu to 270,000 mu. [OW241141 Hefei Anhui Provincial Service in Mandarin 1100 GMT 23 Mar 81 OW]

CHUXIAN PREFECTURE GRAIN PRODUCTION--Hefei, 22 Mar (XINHUA)--Despite a serious flood which affected 1.68 million mu of farmland, Chuxian Prefecture, Anhui, reaped a good harvest of grain crops in 1980. The total grain output in the prefecture in 1980 reached 3,217 million jin marking an increase of 13.6 percent as compared with 1979. The total output of oil-bearing crops in 1980 reached 150 million jin marking an increase of 52.9 percent over 1979. The total cotton output of 1980 remained the same as 1979. [OW231251 Beijing XINHUA Domestic Service in Chinese 0046 GMT 22 Mar 81 OW]

AWARDS CEREMONY--The Anhui provincial people's government on 16 March held an awards ceremony. Provincial Governor Zhou Zijian awarded certificates to 1,118 advanced units in cotton, tobacco, tea and silk cocoon production in Anhui and had pictures taken with them. Wang Guangyu, secretary of the provincial CCP committee, spoke on the occasion. [OW201335 Hefei Anhui Provincial Service in Mandarin 1100 GMT 19 Mar 81 OW]

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DEVELOPMENT OF SUGARCANE PRODUCTION IN FUJIAN PROVINCE DISCUSSED

Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 10 Dec 80 pp 37-40

[Article by Sugarcane and Hemp Institute, Fujian Provincial Agricultural Academy, "Brief Discussion of the Development of Fujian Cane Sugar Production"]

[Text] Editor's Note: The central government has instituted special policies and flexible measures for the development of Fujian's economy that provide exceptionally favorable conditions for hastening the building of the four modernizations in Fujian Province. Numerous agro-scientists are actively exploring how better to make the most of Fujian's advantages so that Fujian may become prosperous early and rapidly. The writer of the articles selected for publication in this issue, "Brief Discussion of the Development of Fujian Cane Sugar Production" and "Discourse on Development of the Silkworm Mulberry Silk Industry" also has proceeded from this aspiration.

Major Significance of Developing the Sugarcane Sugar Industry

Sugarcane occupies an extremely important position in the national economy. Particularly if Fujian Province is to become wealthy first, it will be necessary to make the most of the province's superior natural conditions for the vigorous development of cane sugar industry production.

1. Economic returns from development of the cane sugar industry are high. A look at current production levels in Fujian Province shows sugarcane yields running generally at 10,000 jin per mu with a sugar content of 1200 jin. Highest yields run to more than 40,000 jin per mu, with a sugar content of more than 5300 jin. The economic value of one mu of sugarcane is equivalent to that of five mu of paddy rice, and the maximum is equivalent to more than 10 mu of paddy. Moreover, with the development of the sugar refining industry, large quantities of by-products become available for use; national expenditures of foreign exchange for sugar can be reduced; national revenues can be increased; and positions can be found for large numbers of job-seekers. In economic terms, vigorous development of the cane sugar industry is extremely advantageous for construction of the four modernizations in Fujian Province.

2. Development of cane sugar industry production satisfies needs in the people's lives. Sugar is a necessity in the lives of the people. Following Liberation, sugar production developed in China very rapidly. In 1949, China produced only 199,100 tons (of which 102,700 tons was cane sugar); in 1978, total national production stood at 2.05 million tons (of which 1.77 million tons was cane sugar), for an almost 10 fold increase over 1949. But China still stands lowest among the nations of the world in consumption. At the present time, each person in the world annually consumes an average 22 kilograms of sugar, and in developed countries as much as 46 kilograms, but in China it is only between 2 and 3 kilograms (including imported sugar). In order to satisfy the needs of people's lives, vigorous efforts must be made to develop cane sugar production.

3. It provies fine quality materials for light industry. In addition to being eaten, several hundred kinds of articles may be manufactured from sugar. At the present time, more than 80 percent of China's sugar used for consumption is cane sugar. The by-products, bagasse, molasses, and mud make fine raw materials for light industry such as paper manufacture, man-made fibers, construction materials, furniture, alcohol, yeast, fertilizer, cement, pesticides, and soap. These things are closely bound up with industries and agriculture concerned with national defense, chemicals, textiles, foodstuffs, pharmaceuticals, and light manufactures for use in daily life. Present world output of bagasse totals about 80 million to 100 million tons, the equivalent of the total amount of timber cut throughout the world. Statistics show that 22 countries use bagasse to manufacture paper. From every three tons of bagasse, one cubic meter of bagasse particle board can be manufactured. Every ton of bagasse can take the place of one cubic meter of lumber in use. Recently the United States has made plans to use bagasse to produce fiber sacks. Experts forecast that the multiple uses of sugarcane will more than double the economic value derived from the refining of sugar alone.

4. It provides fine quality fodder to the livestock industry. Bagasse bran can be used as a feed for cows, sheep, rabbits, fish, and such herbivorous animals. With the development of the livestock industry, both the human diet can be changed, and a new source of fertilizer will become available. According to statistics, each ton of cane stalks produce 22 to 25 percent bagasse by volume, and each ton of bagasse produces 20 percent bagasse bran by volume. Bagasse bran is that portion of the bagasse that has been eliminated as unsuitable for use in the manufacture of paper. Thus, the raw material for the manufacture of paper will not be affected. At the present time, most countries in the world also use yet another by-product of sugar refining as a feed, namely molasses. Its advantages are great calorific capacity (70 percent that of corn feeds and 80 percent that of wheat feeds); it increases animals' appetites; it reduces environmental pollution; and it helps development of freshwater aquatic hatcheries. It is a very useful waste material.

5. It has broad prospects for solving the energy problem. The world now recognizes that the most reliable and most convenient energy is organic energy rather than fossil energy inasmuch as fossil energy (such as petroleum and coal) requires eons of time to accumulate, and is, at the same time, both a limited source of energy and is not evenly distributed. Organic energy, (like sugarcane) on the other hand is available to man within a short period of time and, at the same time, its production and use in unlimited quantities may be controlled. Furthermore,

distribution is fairly even, and costs are very low. At the present time, Brazil, the country that produces the most sugarcane in the world, uses 41 percent of its sugarcane to make alcohol. Its president has decreed that all government vehicles must be refitted to use alcohol as fuel. The country is planning to invest 11 billion dollars to develop industry that will produce alcohol from sugarcane and other crops. Recently the United States has used all of its sorgo and a portion of its sugarcane to manufacture alcohol. Many countries in Latin America and India are also developing sugarcane as energy crops, and studying trial use of "gasohol." They feel that not only is it more economical than imported petroleum, but it can also solve some of the domestic unemployment problem. Experts predict that in future man will substitute sugarcane for petroleum as a raw material in the chemical industry.

Development and Current Situation of Sugarcane in Fujian Province

China was the first country in the world to refine sugar from sugarcane. In the record of his travels to China in 1275, Marco Polo said, "Fuzhou produces so much sugar as to be unbelievable." Last year, another 52 wild growing varieties of sugarcane including bamboo sugarcane (zhuzhe 4554 5587], yishoumi [0435 2087 1378], and banmao [3803 5403] were discovered in Fujian Province. This shows that at a very early time, the cane sugar industry was quite advanced in Fujian Province, and make a huge contribution both domestically and abroad. Subsequently, however, as a result of the long-term corruption and impotence of the government of the old society, and the depradations of imperialism, the cane sugar refining industry in Fujian Province was severely devastated. As of the time of Liberation in 1949, sugarcane acreage for the entire province totaled only 850,000 mu, and the old stock varieties of bamboo cane were virtually the only ones that continued to be used. Processing too used primitive indigenous sugar mills to produce brown sugar. Yields averaged only 3500 jin per mu throughout the province for an annual output of 15,000 tons of sugar, equal to the current annual output of Daji Commune in Shanyou County alone. On the basis of the average population of Fujian Province at that time, this amounted to less than 1.3 kilograms per person. Following Liberation, under the guidance and support of the party and the People's Government, the sugarcane industry of Fujian Province developed rapidly. By 1959, the sugarcane acreage in the province had expanded to 369,000 mu for a 3.3 fold increase over 1949 with yields of 7547 jin per mu of cane, a 1.16 fold increase over 1949. Annual sugar output amounted to 105,000 tons for a 6 fold increase over 1949. Later, during the 10-year turmoil of the Cultural Revolution, a great regression took place in the cane sugar industry of Fujian Province. During this period, despite annual incremental increases of 1.1 percent in the sugarcane growing acreage, yields per mu declined by 5.9 percent annually for an average 27.3 percent decline in yields per mu as compared with the 1950's. Annual output hovered around 120,000 tons, a 25,600 ton decline from several years preceding the Cultural Revolution. Following the smashing of the "gang of four," the government adopted policies for the development of sugarcane, and only then did Fujian Province's cane sugar industry make great strides in development. In 1978, Fujian Province planted 620,000 mu of sugarcane, which produced more than 320,000 tons of sugar or approximately 1 ton of sugar per 1.9 mu of land, which was more than double the national average of 1 ton of sugar per 4 mu of land. Average yield was 4.3 tons per mu with a 13.2 percent sugar content, making it the highest in the country. In 1979, another tremendous increase took place in the quantity of sugar produced in Fujian Province. Though total sugarcane acreage was only 913,000 mu, a 0.32 percent decline from 1978, sugar output totaled 370,000 tons for a 15.62 percent increase over 1978. During the four-year period of 1975-1979 in which grain and sugar were linked, sugarcane acreage increased 18.9 percent, per unit yields shot up by 50 percent, and sugar output increased 72 percent. However, in comparison with the nations and regions of the world that are advanced in sugarcane production, sugarcane production in Fujian Province is still backward. In terms of per unit yields, Fujian Province produces about 5 tons of sugarcane per mu while Australia gets 5.31 tons, the United States 5.45 tons, Swaziland 7.52 tons, Zambia 7.04 tons, Ethiopia 8.33 tons, and Peru 10.43 tons. Taiwan Province produces 6.02 tons. In terms of annual per capita consumption, Fujian Province uses less than 15 kilograms, while Australia uses 57.3 kilograms, Brazil 46.2 kilograms, the USSR 46.8 kilograms, the United States 47 kilograms, and the United Kingdom 47.5 kilograms. Taiwan Province uses 25.85 kilograms. In the mechanized refining of sugar, even though Fujian Province gradually went from zero to the building of 47 mechanized crushing and semi-mechanized crushing sugar mills following Liberation, the largest can crush 3000 tons per day, and the smallest can crush only 50 tons. Meanwhile, Cuba has 148 sugar refineries of which 145 can crush more than 1000 tons per day; 5 can crush more than 10,000 tons, and the largest can crush 16,100 tons per day. The smallest can crush 920 tons. Total daily crushing capacity is more than 559,800 tons. In the growing of sugarcane, Fujian Province has few superior varieties, and the area farmed by machinery is small. In terms of scientific research, both personnel and facilities are relatively weak.

Tenative Ideas and Suggests About Development of Fujian Province's Cane Sugar Industry

1. Make full use of Fujian Province's natural advantages to make the cane sugar industry become a major avenue for the development of the economy. Fujian Province is in the semi-tropics where it is warm and damp all year round. The average annual frost-free period is long (240-330 days); annual precipitation averages 1200-2000 millimeters); annual number of hours of sunshine are long; and annual mean temperature is 18-22°C. All these are extremely favorable for the growing of sugarcane, which is characterized by its liking for light, warmth, water, and has a high rate of light energy utilization. Furthermore, the sugarcane growing area is concentrated in the southeastern coastal area, to the northwest of which are high mountains that block the cold air. The ocean in the southeast also serves a regulatory function. Therefore, Fujian Province is the most ideal place in the entire country for the development of the cane sugar industry. Data demonstrate that the light energy utilization rate for sugarcane reaches 20 to 25 percent. Currently, however, the light utilization rate of sugarcane in Fujian Province is only about 2 percent, the highest being 3-5 percent, while in countries advanced in sugarcane production, it is 7 to 9 percent. Consequently, further increase in the light energy utilization rate in Fujian Province to increase per unit yields by another .80 to 100 percent is entirely possible.

Vigorous development of cane sugar production can both save the country large amounts of foreign exchange for the importation of sugar, and can also increase revenue payments to the state (a plant with a daily output of 2000 tons would turn over to the state revenues of more than 10 million yuan annually). It would also help the masses increase their income, and solve problems in providing jobs. According to preliminary stations, for every 100,000 ton increase in output of cane sugar, commune member income would increase by more than 30 million yuan; the state would receive increased revenues of more than 60 million yuan; and 2000 people could be placed in jobs. Development of the cane sugar industry would be extremely beneficial for the state, the collective, and commune members.

2. Build a series of cane sugar industry bases with consistently high output.

It is recommended that on the basis of climate, water conservancy, transportation, and farming conditions that cane sugar industry bases with consistently high output be built in which the transportation radius does not exceed 30 kilometers, in which the sugarcane growing acreage amounts to between 50 and 60 percent of total cultivated land, and in which sugar refinery daily crushing capacity is better than 2000 tons. Construction of such a specialized, regionalized sugar industry base would make for centralization in management, mechanization, and in use of the newest achievements of scientific research. It would offer extremely great advantages in the improvement of work efficiency, output, quality, and economic benefits. A survey shows that this year the Zhangzhou sugar refinery persevered in a program for high sugar output and high crushing. It began crushing at the most propitious time for the accumulation of sugar in the cane, closed down two small sugar refineries in the surrounding area, and centralized the crushing of sugarcane in a large plant. As a result, 3510 tons more sugar was produced than during the last crushing season, for a 3.6 million increase in earnings, providing the state with a 2.34 million increase in revenues while earning 366,600 yuan in profits for the plant, to make it the frontrunner in the country. Experience has shown that large sugar refineries can produce greater economic benefits than small sugar refineries.

3. Build and perfect a sugarcane production management system and a research organization. At the present time, management of sugarcane production in Fujian Province is under the guidance of agricultural bureaus at various levels. Management personnel are few in number and change jobs frequently. Research forces are also very weak. Not only is land scant, personnel lacking, and operating expenditures minuscule, but standards are low. We recommend that the province, prefectures, and counties mutually establish cane sugar industry companies that combine industrial, agricultural, and commercial components. Anything pertaining to sugarcane production, promotion of techniques, processing of sugarcane, multiple uses of sugarcane, marketing of products, and a system of award sales would be contracted to these companies as their responsibility, thereby making them into independent accounting units with functions, rights, and responsibilities under the direct leadership of economic commissions at all levels. With regard to research, it is recommended that the existing Provincial Sugarcane and Hemp Institute be converted to a provincial sugarcane institute. Breeding, cultivation, plant protection, soil fertility, physiology, mechanization, sugar refining, administration and management, and information research laboratories should be established with commensurate staffing with personnel, enlargement of the cultivated area, and increased operating expenses and equipment so that they can keep ahead of production and use research results to guide production.

4. Strive to uplift scientific sugarcane farming standards. Apart from continued unswerving reliance on policies to arouse the enthusiasm of the masses for production, continuous promotion of an effective linking of sugarcane and grain, award sales of fertilizer, bonus price for providing their own setts [yuzhong jiajie 5148 4429 0502 0116], and such policies, and a system of responsibility for production management, vigorous development of sugarcane production requires efforts to raise scientific sugarcane farming standards in Fujian Province.

(1) Earliest possible provincewide conversion to superior sugarcane varieties. When superior varieties are used, even with no increase in work force, fertilizer, or land, substantial increases in harvest can be won.

Repeated experiments during the past several years in Fujian Province have shown the two superior varieties Minxuan 703 and Mintang 70/611 to have striking increases in output; nevertheless, the area to which they have been extended in cultivation amounts to only 25 percent of the total sugarcane area in the province. If, during the next several years, the superior variety area could be increased to 70 or 80 percent, net income accruing to Fujian Province would double or redouble. This is an extremely inexpensive yet substantive measure, which must be adopted as a major link.

(2) Adaptation of general methods to local situations for an expansion in the planting of autumn cane. In Fujian Province, more than 60 percent of the sugarcane plantations are in hilly or dry areas. Experience has shown that autumn sugarcane grown in hilly and dry areas can make full use of sunlight and the copious rainfall in Fujian Province during the first half of the year for 20 to 40 percent increases in per unit yields, and a 1 to 2 percent increase in sugar content as compared with sugarcane planted in spring. Though it has a long growth period, being grown for one winter season longer, rational intercropping, and greater planting for greater harvests to increase the land utilization has been worked out through experience, and should be vigorously promoted.

(3) Advocacy of intercropping of green manure. Investigation has shown that whenever green manure is intercropped in sugarcane plantations, the organic content of the soil is quite high. This plays a definite role in improving the soil of sugarcane groves, increasing its fertility, and in promoting sugarcane production. In hilly and dry areas where both water and fertilizer are lacking, in particular, the role of such intercropping in increasing output is all the more striking.

(4) Reform of the farming system. Increase in the utilization rate for light energy, and promotion of balanced high output. The more than 200,000 mu of sugarcane fields in the Jiulong Jiang, Jin Jiang and Mulan Qi basins of Fujian Province account for more than 60 percent of the total sugar output in the entire province, and are the major cane sugar production bases in the province. But even in these areas, output is not balanced. In other sugarcane producing areas, output from equivalent acreage is very low, only 3000 to 5000 jin in some. How to transform low output sugarcane plantations into high output sugarcane areas, and transform high output sugarcane plantations into higher output sugarcane bases requires, in addition to the aforementioned measures, principally reform in the farming system to increase the light utilization rate. From June to September, light and heat

resources in Fujian Province are quite abundant, and the months of July and August, in particular, are the period in which light and heat resources are most abundant during the entire year. During this period, monthly temperatures average 27-30°C and above, and solar radiation is 14-16 kilocalories/mm^2 and above. If sugarcare could make full use of the light and heat during this period, we could drive a high output of sugarcane. Advocacy of the planting of sugarcane in the autumn has been made for this reason. In sugarcane plantations not suited to autumn planting, planting must be done early so that the canes will grow early and develop rapidly to increase the leaf surface coefficient of the sugarcane plants in order to make full use of the light and heat resources of June and July to achieve the goal of increased output. Second, for sugarcane grown in wheat fields, the method of transplantation according to the state of the shoots may be used. This also employs a protraction of the sugarcane growing period to increase leaf area coefficients during June and July, thereby using light energy to accumulate wealth for mankind. Additionally, reasonably close planting can increase the number of effective canes to make fullest use of light and heat resources in order to attain the goal of increased output. Generally speaking, between 5000 and 6000 large stalks of sugarcane can be grown per mu, and between 6000 and 7000 stalks of medium size sugarcane.

(5) Use of multiple measures for prevention and control to assure high and consistent output. At the present time, the major sugarcane insect pests in Fujian Province are sugarcane snout moth's larvae, aphids, leafhoppers, grubs, mole crickets, and termites. The numerous varieties, and the overlapping of generations makes prevention and control difficult. In order to solve this problem, it is necessary, first of all, to use disease and insect resistant varieties. Second is soaking of setts in chlordane to prevent underground insect pests in order to assure even seedlings and sturdy seedlings. Third is use of planting techniques to control the cane to leaf ratio to increase ventilation of light penetration, and to avoid a peak season for diseases and insects. Fourth is intensified defoliation to heighten the ability of the sugarcane to resist diseases and insect pests. Fifth is use of the highly effective, long-lasting, low toxicity insecticide to control snouth moth's larvae that is not greatly harmful to the natural enemy's of the larvaie--amidine insecticide. Sixth is to take into account the types of diseases and insect pests and their living habits during the late stages of growth to use highly effective, low cost dichloruos smoke insecticide to asphyxiate them. Additionally, further use should be made of effective measures for increasing output such as making a furrow and placing newly planted cane flat in it, close planting in a triangle, the "four earlys" of perennial sugarcane roots, namely early opening of the ridges between plots and loosening of soil around the canes, early adding of seedlings, early control of insects, early application of fertilizer; the alternate moist and wet technique of promoting control over sugarcane fields; the three sporadic and one supplemental applications of fertilizer, namely to promote seedling growth, to promote tillering, to promote stalk growth, and a supplemental finaly application to strengthen the canes; and the use of a small hoe to cut low during harvesting, all of which techniques must be adjusted to local situations and continue to be applied so that their usefulness in increasing output will be put to use.

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AFFORESTATION PROGRAM--Since the beginning of spring this year, both urban and rural people throughout Fujian Province have actively engaged in afforestation. By early March, some 2 million [mu] of land had been afforested and some 2.2 million trees planted on various plots available throughout the province. Afforestation is still carried on in various localities. [OW140831 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 12 Mar 81 OW]

ZHAOAN COUNTY AQUATIC PRODUCTS--Fuzhou, 21 Mar (XINHUA)--Since January 1980, Zhaoan County, Fujian, has adopted a grain distribution system for the county's fishermen, under which those who sell more fish to the state will get more food grain. The new system has fired the fishermen's enthusiasm to deliver aquatic products. In 1980, the county's total aquatic products output was more than 57,000 dan, or 25 percent over that in 1979. The county purchased more than 14,000 dan of aquatic products in 1980, or 150 percent more than in 1979. [Beijing XINHUA Domestic Service in Chinese 0709 GMT 21 Mar 81 OW]

XIANYOU COUNTY SUGARCANE PRODUCTION--Xianyou County, Fujian, actively develops sugarcane production. It plans to grow 130,000 mu of sugarcane this year--10,000 mu more than last year. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 25 Mar 81 OW]

ZHANGPU COUNTY OXEN--In 1980 Zhangpu County, Fujian Province, had more than 41,000 head of oxen in stock, a 4 percent increase from the previous year. The county has 250,000 mu of grazing ground in its mountain areas, and individual commune member households are encouraged to take advantage of this to raise oxen and cubs. Last year more than 4,000 cubs were bred by the more than 1,000 local cows using sperm from 2 foreign bulls, which is kept in 8 cold storage centers. This year loans have been offered for the commune members to procure another 1,764 oxen. [OW210453 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 20 Mar 81]

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BRIEFS

PREFECTURE AGRICULTURE--Gannan Tibetan Autonomous Prefecture, Gansu Province, reaped a bumper harvest in agriculture and animal husbandry in 1980. The annual total grain output was some 190 million jin, an increase of 39 million jin over 1979. The total yield of oil-bearing crops was 7.73 million jin, overfulfilling the annual oil-bearing crops marketing target by 18 percent. The prefecture had some 2.63 million head of livestock in 1980. In addition, some 8 million yuan was granted last year to poor communes and brigades in the prefecture to help them develop agriculture and animal husbandry. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 20 Mar 81 SK]

CSO: 4007

BRIEFS

POND FISH PRODUCTION--Guangzhou, 19 Mar (XINHUA)--Last year Foshan Prefecture of Guangdong Province produced some 2.5 million dan of pond fish, hitting a record high. Of this amount, more than 530,000 dan were supplied to Guangzhou and other medium and small-sized cities, and some 590,000 dan were exported directly to Hong Kong and Macao. [Beijing XINHUA Domestic Service in Chinese 0020 GMT 19 Mar 81 OW]

CSO: 4007

BRIEFS

ZUNYI PREFECTURE RAPE CROP--Guiyang, 21 Mar (XINHUA)--The more than 1.3 million mu of rape in Zunyi Prefecture, Guizhou, is growing well. In 1980, Zunyi Prefecture harvested more than 117 million jin of rapeseed from some 920,000 mu, an increase of 65.4 percent over the total rapeseed output in 1979. [Beijing XINHUA Domestic Service in Chinese 0714 GMT 21 Mar 81 OW]

CSO: 4007

SUCCESSFUL AGRICULTURAL RESEARCH REPORTED

Tianjin TIANJIN RIBAO in Chinese 25 Jan 81 p 1

[Article: "Tianjin Municipal Agricultural Science and Technology Front Has Several Research Accomplishments. Following Formal Authentication, These Accomplishments Confirmed. Accomplishments Greater Than in Any Previous Year"]

[Text] According to statistics from the Municipal Science Commission, following formal authentication by experts and scientists, Tianjin municipality's several research achievements on the scientific and technical front have won confirmation. These achievements have been greater than in any previous year.

A comrade connected with the Municipal Science Commission said that 1980 was a year of bumper harvests for agricultural research work. The breeding by the biology department of Nankai University of a pure variant strain of popcorn, a liguleless mutant, was a first in the world. In the realm of breeding for disease resistance, the Municipal Agricultural Academy's Plant Protection Institute bred a new variety of corn that is resistant to leaf spot, "Jinxia No 1;" in the field of breeding new varieties of grain and vegetables, the Legume Institute of the Agricultural Academy bred two superior hybrid combinations that are strongly disease resistant and have high output, "Jinqing No 12" and "Jinqing No 34." The Rice Institute worked together with the Genetics Institute of the Chinese Academy of Sciences to successfully breed a new quality rice variety. "Huayu No 1," which is resistant to bacterial blight and tolerates saline-alkaline soils. Some of these varieties are already in production over wide areas. Additionally, the Fodder Institute, Shuanggang Commune, and Teacher's Training College attained advanced domestic levels in their research experiments on artificial propagation and use of earthworms, providing several hundred units in the country with techniques for propagating and raising earthworms. On site seed stock propagation experiments conducted by the Tanggu Area Agricultural Techniques Promotion Station in the growing of detoxified potatoes made a contribution to solution of the problem of deterioration of potato quality. Success in experiments in the grafting of pumpkins and cucumbers, which were jointly conducted by the Bureau of Agriculture and Forestry of the northern suburbs, the Tianmu Brigade, and the Dongtitou Commune, produced a way to prevent cucumber wilt disease, which has heretofore had no method for control. Research conducted jointly by the Northern Suburbs Agricultural Institute and the plant protection department of Beijing Agricultural University in the use of granular viruses to prevent green worms in vegetables opened new avenues in the development of biological controls for Tianjin. Research conducted with the Municipal Metrology Institute in nutritional diagnosis of wheat plants also achieved heartening results. All of the aforestated research results have been formally authenticated by experts and scientific and technical personnel to win confirmation. Additionally, a citywide survey of natural agricultural resources and work in the zoning of agriculture, propation of cucumber strains with multiple resistance, growing of high output peanuts, artificial breeding of mullet, use of seacoast beaches to introduce fine varieties of rice grass [damicao 1129 4717 5430], and afforestation of the seashore, though they have not undergone formal appraisal, made advances throughout last year, and some of them have made decisive breakthroughs.

Comrades at the Municipal Science Commission said that such a large number of accomplishments on the agricultural science and technology front, and such a good situation has not taken place for many years. He analyzed the reasons as improvement in the position in society of scientists and technicians since the smashing of the "gang of four," and particularly since the Third Plenary Session of the 11th Party Central Committee, which has aroused enthusiasm for scientific research. Secondly, proficiency testing of scientific and technical personnel for promotion and evaluation of technical posts has strengthened the dedication of technicians; people vie with each other in professional proficiency, strive to achieve more and to produce results quickly. Third is increased attention to research work on the party of all echelons of CCP Committees and the People's Government, which has meant relatively great progress in numerous research tasks.

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SHIJIAZHUANG PREFECTURE WHEAT--Shijiazhuang Prefecture in Hebei Province has set a course of promoting and putting into effect a system of responsibility for production linking production of wheat to remuneration as the key measure for winning a bumper harvest in agriculture for the entire year. Statistics show that last year's output of wheat in this prefecture was 850 million jin less than in the previous year, but in the more than 900 production teams in which a system of responsibility for production linking wheat output to remuneration had been promoted, under identical climatic conditions, wheat output showed a striking increase in comparison with surrounding production teams where remuneration had not been linked to output. Some production teams had increases in output of more than 20 percent more than in bumper harvest years to create the highest records ever. In summarizing the lessons of these experiences, the Prefecture CCP Committee and provincial government administrative offices explicitly declared for use of a system of responsibility linking remuneration to wheat output as a key measure in winning a bumper harvest in agriculture in 1981, and specially convened a conference to make specific deployments. Now more than 14,000 production teams throughout the prefecture have instituted a system of responsibility linking remuneration to wheat output. This is more than 50 percent of all production teams. In the process of instituting a system of responsibility linking remuneration to wheat output, Shijiazhuang Prefecture made widespread use of representative means of guidance relying on the masses to solve difficult problems. The Prefecture CCP Committee and provincial administrative offices summarized and printed for circulation representative experiences during 1980 in the implementation of a system of responsibility linking remuneration to wheat output. Each county and commune also provided cadres with representative cases from their own counties and communes for commune members to discuss, differentiate, and compare. Now, the production teams throughout the prefecture that have already instituted a system of production linking remuneration to wheat output are in process of further consolidating, completing, and improving their work. Those production teams that have not yet implemented such a system are being helped by county and commune leaders to implement them as rapidly as possible. In places where the cadres and commune members do not wish to have a system of responsibility linking remuneration to output, their wishes will be respected and a system of responsibility of "coordinated" management or contracting for small segments of work, or fixed remuneration will be instituted with no effort to do everything in the same way everywhere. [Text] [Beijing RENMIN RIBAO in Chinese 19 Feb 81] 9432

CHANGPING COUNTY TREE PLANTING--Responsible comrades of the Beijing Municipal CCP Committee, People's Congress Standing Committee, people's government and CPPCC including Duan Junyi, Jiao Ruoyu, Ye Lin, Wang Chun, Li Ligong, Liu Jianfu, Bai Jiefu, Liu Daosheng, Ye Zilong, Ma Yaoji, Yang Chunmao and Lei Jieqiong, went to plant trees in Nankou District of Changping County in the city outskirts on 25 March. [HK300751 Beijing City Service in Mandarin 2300 GMT 25 Mar 81]

CSO: 4007

BRIEFS

SHENYANG GRAIN, SOYBEAN OUTPUT--Shenyang suburbs and subordinate counties diligently carried out the spirit of the Third Plenary Session of the 11th Party Central Committee to win a bumper harvest in grain during 1980 that created new records for total output. Increases occurred in the three economic indicators of average per capita income for commune members, commune members' savings, and quantity of live hogs purchased by the state, which topped the 11 years prior to 1976. Statistics show that in the four suburbs and two counties subordinate to Shenyang City, total output of grain and beans during 1980 broke the 3 billion jin mark with 3.003 billion jin, a 5 percent increase over the previous year. Commodity grain tendered to the state amounted to 1.33 billion jin, a 17 percent increase over the previous year and a 44 percent commodity rate for grain. Per capita commodity grain tendered to the state averaged more than 610 jin. Commune member per capita income amounted to 160 yuan, a 13 yuan increase over the previous year. State purchases of live hogs numbered 438,000 head, a 141,000 head increase over the previous year, while during the 11 year period from 1965 to 1976, the quantity purchased not only did not increase but declined. Accompanying the rapid growth in production has been striking improvements in the lives of commune members. During 1980 the addition of household sideline occupations in rural villages under the city's jurisdiction brought net income per capita to 210 yuan, almost double the 1976 amount. The trend of commune member purchasing power began to change from food, clothing, shelter, and use, to shelter, use, food, and clothing. At the Bayi Commune in Sujiatun district where more than 4000 peasant households live, more than 1250 television sets and washing machines were bought just before and after New Years. [Text] [Beijing RENMIN RIBAO in Chinese 2 Feb 81 p 1] 9432

STATE FARMS GRAIN, SOYBEAN PLANS--Each of the state farms under the jurisdiction of the Heilongjiang State Farm Bureau have summarized experiences in last year's tremendous increased output of grain and beans to take further action this year centering on assuring growth in grain and bean output in order to provide the state with more commodity grain. This year, when state investment in agriculture has declined, each of the state farms under jurisdiction of the Heilongjiang State Farm Bureau are preparing to retrench the scale of capital construction, cutting back on nine industrial and transportation construction projects, and tightening up on large water conservancy projects at 17 sites whose construction will not bear fruits for a long period of time, using the money saved on urgently needed projects for agricultural production. At the same time, they are actively accumulating funds themselves to increase the proportion of investment in agriculture. Planned for this year is the new purchase of 1300 combines, 1600 large and medium size tractors, the refitting of 700 old model towed reapers, and an increase in the level of equipping with farm machines. Also planned is further improvements in the management of farm machines, the promotion of standardized operations, promotion of increased soil fertility, scientific application of fertilizer, reasonably close planting, chemical elimination of weeds and the use of superior varieties, and such new techniques. Also desired is to do what is possible in the opening of wastelands to expand the cultivated area and to improve output per unit of area. Continued perservance in and perfection of systems of fiscal contracting of work and the beginning this year of a guaranteed 4 years without change with no further subsidies being given for losses to enterprises that are still losing money. In production plans, the Farm Bureau is to direct to management bureaus only quotas for the total acreage to be sown, the total output, and the amount to be tendered to the state, with the management bureaus and the farms having authority to take realities into account in the way they lay out concrete production plans and production measures to take advantage of adjustment of general methods to local situations in the development of production. This year each farm will make a trial implementation of uniform accounting with all production teams in a system of responsibility for production linking remuneration to output with fluctuating wages that entails contracting for the entire year with division of profits, and whereby production teams will be permitted to set base wages and awards. [Text] [Beijing RENMIN RIBAO in Chinese 17 Feb 81 p 1] 9432

CSO: 4007

QUALITY OF COTTON IMPROVED IN HUBEI

Wuhan HUBEI RIBAO in Chinese 30 Jan 81 p 1

[Article: "General Rise in Cotton Quality in Hubei Province During Year of Flood Disaster"]

[Text] The correspondent obtained the following on 24 January from the Provincial Cotton Company. Last year Hubei Province suffered flood disasters such as have rarely occurred in history, yet the cotton sold to the state was of generally fine quality. Of the more than 5 million dan of cotton already sold to the state, quality averaged a 0.4 grade increase over that of 1979, and fiber length was greater by 0.27 millimeters. After the cotton was sent to textile mills, textile mill workers universally reported that this year's cotton was of high quality and production went along much more smoothly. Because of the fine quality of the cotton and the long fibers, and out of consideration for the rather heavy investment made to combat calamities last year for cotton production, the state decided to increase the price it paid by 5 percent. This has meant, in practice, an average increase of more than 17 yuan per dan for cotton over the 1979 price. Total earnings for cotton farmers throughout the province have amounted to close to 100 million yuan.

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HUBEI

BRIEFS

WUHAN TREE PLANTING--Wuhan, 20 Mar (XINHUA)--Afforestation is turning the industrial triple city Wuhan, once known as "Big Oven" in summer in central China, into a green city, offering more comfort and attraction to inhabitants and visitors alike. With 16 percent of the land tree covered, a spokesman for the Municipal Bureau of Parks and Woods said that every Wuhan citizen can claim 14 trees and share 1.77 square meters of afforested land. In the past decade and more, a total of 31 million trees have been planted in gardens, along the streets and the banks of the Changjiang River, which runs through the city. By the end of last February, the total afforested area in the city is 22,000 hectares, the spokesman said. Tree planting has begun to change the environment. A survey last year showed that sulphur dioxide in the air per cubic meter was 37 percent less than in 1963, and dust 20 percent less. The cleaner environment is also partly due to the efforts of the Wuhan Iron and Steel Company to control pollution in its sintering, coking and steel melting works, producers of heavy pollutants, the spokesman said. [Text] [HK201335 Beijing XINHUA in English 0736 GMT 20 Mar 81 OW]

CSO: 4020

USE OF METHANE GAS PROMOTED IN RURAL AREAS

Nanjing XINHUA RIBAO in Chinese 3 Feb 81 p 2

[Article: "700,000 Peasant Households in Jiangsu Province Use Methane"]

[Text] In 1980, new developments took place in Jiangsu Province's methane undertakings. Throughout the province 129,000 new methane pits were built; 56,000 old and ailing pits were refurbished or repaired, and 165 methane electric power generating stations were built. A total of 718,000 methane pits are now in operation throughout the province, and 66 communes, 1,583 production brigades, and more than 18,100 production teams have substantially converted to methane. Seven huddred thousand peasant household use methane gas, and 256 small methane gas electric power generating stations have been built to play a major role in augmenting energy for rural villages and in promoting agricultural production.

Jiangsu Province has a fairly serious shortage of grass. Last year the state supplied more than 1 million tons of coal for use in the daily life of the people. This state of affairs not only increases the burden of the state and of the peasantry, but also in pairs development of agricultural production. In order to solve the problem of an inadequacy of energy in rural villages and to increase the amount of organic fertilizer, all echelons of leadership gave attention to methane production as a matter of major importance. The Provincial Government convened a methane work conference of the highly sandy soil prefectures in the southern part of the province to study tasks and assign actions, and also allocated 1.8 million yuan for use in experiments for the expansion of methane gas generation of electricity.

By way of constantly improving the quality of methane pits, each jurisdiction gave a great deal of attention to the training of technical forces. Last year, each echelon individually trained more than 8000 perple. Personnel trained during the past several years number 80,000 man times. Numerous communes and production brigades have set up special methane teams to build methane pits all year round with specialized personnel building the methane pits and looking after methane gas production. Some counties, communes, and production brigades have instituted a system of responsibility of "three guarantees and one award or penalty," by which there is guaranteed construction or repair, guaranteed utility, and guaranteed remuneration in workpoints. If quality is good, progress fast, and the amount of materials and labor used within prescribed quotas, rewards are given; if quality is poor and work has to be redone, no workpoints are recorded. Last year, Haian County built almost 20,000 methane pits for which the first time success rate was better than 98 percent. The regular utilization rate for methane pits throughout the province rose from 74 percent in 1979 to 81 percent.

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CSO: 4007

BRIEFS

INCREASED MARKETING OF HOGS--Formerly many places one-sidedly emphasized the number of pigs on hand to the neglect of the slaughter rate in the raising of pigs. They did not stress economic results nor scientific hog raising, and they had no system of responsibility; consequently, some of them raised hogs for 7 or 8 months, or even for a year or more till they became "long life hogs." This year a sharp increase has taken place in the quantity of fattened hogs purchased in Jiangsu Province, and the quantity on hand has dropped. This is a heartening development that has taken place as the hog raising industry has overcome the effects of leftist mentality. This year, a tremendous increase has taken place in the number of hogs purchased in Jiangsu province, and the number kept on hand has fallen sharply. As of the end of September, a total of 12.24 million hogs had been purchased and the decline in the number on hand has been a readjustment in the proportion of commune raised and privately raised hogs following a liberalization of government policies. As compared with the same period last year, collectively raised hogs decreased by 1.76 million head, while hogs raised by commune members increased by 360,000 head. Moreover, the slaughter rate for commune member raised hogs has been consistently higher than for collectively raised hogs. In addition, a system of responsibility for production was instituted for collectively raised hogs, and intensification of management of feeding also increased the slaughter rate. Naturally, the promotion of advanced techniques raised the standards for scientific hog raising. Concern for economic results, and no further pursuit of quantity of hogs on hand, etc. are also reasons for a decline in the number of hogs on hand. [Text] [Nanjing XINHUA RIBAO in Chinese 19 Dec 80 p 2] 9432

BAD WEATHER THREATENS OVERWINTERING CROPS--The Jiangsu Provincial Department of Agriculture and Forestry yesterday issued an urgent notice calling upon all jurisdictions to intensify leadership, quickly establish and perfect a system of responsibility for production, and take action for the normal growth of overwintering crops threatened by the current drought and freezing to assure that wheat, barley, and naked barley, rape, and winter green manure safely survive the winter.
The weather in Jiangsu Province has been inordinately dry ever since the beginning of winter, and temperatures have tended to be low causing severe drought and freezing for the overwintering crops, resulting in a decline in quality. The leaves of wheat, barley, naked barley, rape, and winter green manure have suffered varying degrees of damage, and some late sown crop seedlings that were carelessly planted have already frozen to death. The drought and the freezing continue. In order to assure safe growth of the overwintering crops, and strive for a bumper

harvest when they mature in summer, each jurisdiction should, first of all, make a conscientious examination of the crops as part of the work of combating drought and protecting the seedlings. They should adapt general methods to local situations, give tailored guidance, and act according to the moisture content of the soil, the condition of the seedlings, and the weather picture. At the present time, temperatures in the prefectures south of the Huai are not yet excessively low, so combating the drought primarily through irrigation with rapid irrigation and rapid draining away should be taken in hand. In the prefectures north of the Huai, the drought is now serious. Both combating drought and understanding of the weather is necessary to prevent flood irrigation that would lock the earth in a freeze and increase freeze damage to the crops. Secondly, a concerted effort should be made to apply winter fertilizer and to work on wheat fields. Making holes for deep application of fertilizer should be rushed before winter irrigation so that the combination of fertilizer and water will increase the effectiveness of the fertilizer. Insofar as possible, the wintering crops should be given some additional application of barnyard manure to help guard them against freezing. For rape, and overwintering green manure, as for wheat, barley, and naked barley, there is need to combat drought, apply fertilizer, and work on the fields.to protect the seedlings against freezing. [Text] [Nanjing XINHUA RIBAO in Chinese 15 Jan 81 p 1] 9432

JIANCSU'S AGRICULTURAL FIGURES FOR 1980--In 1980, the broad masses of rural cadres and commune members triumphed over seriously low temperatures, excessive rainfall, flooding, and such natural disasters to bring in a fairly good harvest in agriculture after all. Though grain output declined from the bumper harvest years of 1979 and 1978, it was still the third highest bumper harvest year since the founding of the People's Republic. Silkworm cocoons amounted to 760,000 dan, tea to 110,000 dan, and aquatic products to 400,000 tons, all of them breaking the highest levels ever recorded. Considerable development also occured in production of livestock and fowl, and fresh fruits. As a result of the implementation of policies, not only did earnings from collective industrial sideline occupations show substantial increase, but household sideline occupations for most commune members also showed remarkable development. As a result, among the broad masses of cadres and commune members, peopless minds were at ease, their hearts content, and the situation in rural villages was very good. The low temperatures and large amount of rainfall last year was extremely bad for cotton production. As part of their struggle to combat calamity, cadres and commune members in cotton growing areas dug ditches in all the fields to drain away waterlogging, promptly dealt with insect pests, and spread fertilizer, as a result of which the province's output of ginned cotton was still able to exceed 8 million dan, making it one of the higher years for total output since liberation. Even though rapeseed, and sesame seed declined in output, a bumper harvest of peanuts was reaped. Last year live hog purchases in Jiangsu Province reached more than 19.29 million head, a 16.4 percent increase over the same period during the previous year, and weight per head also averaged 1.9 jin more. Though quantity of fowl and eggs purchased by the state declined over the same period during the previous year by 19 and 10 percent respectively, thanks to implementation of policies, output developed and there was a clear increase in the number going to market through various channels. [Excerpts] [Nanjing XINHUA RIBAO in Chinese 25 Jan 81 p 1] 9432

SPRING FARMING SUPPLIES--In February, supply and marketing cooperatives throughout Jiangsu sold a total of 96.5 million yuan worth of spring farming supplies to the countryside, 47 percent more than in the same period last year. [HK201335 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 18 Mar 81 OW]

ZHENJIANG PREFECTURE AGRICULTURE--Nanjing, 21 Mar (XINHUA)--Since autumn 1977, Zhenjiang Prefecture, Jiangsu, has readjusted its cropping arrangements. Comparing the last 3 years with the preceding 3-year period, grain acreage was reduced by 6 percent, but grain output increased by more than 3 billion jin. In 1980, the prefecture's total cotton output was 310,000 dan, more than 3.5 times the highest past figure. Tea, silkworm cocoons and fruit all set new output records in 1980. [Beijing XINHUA Domestic Service in Chinese 0702 GMT 21 Mar 81 OW]

GUANNAN COUNTY AGRICULTURE--The 420,000 mu of wheat, barley and naked barley in Guannan County, Jiangsu, are growing well. Attention is being paid to field management to insure a good harvest. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 23 Mar 81 OW]

XINGHUA GRAIN PRODUCTION--Despite natural disasters, Xinghua County, Jiangsu, produced 1,765 million jin of grain crops in 1980 and delivered 690 million jin of marketable grain to the state. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 23 Mar 81 OW]

CSO: 4007

JIANGXI

BRIEFS

AERIAL FORAGE GRASS SOWING--The Agriculture Ministry's General Animal Husbandry Bureau successfully carried out aerial sowing of forage grass in the (Datinao) District of the (Zishan) commune in Yudu County, Jiangxi, in early March. Nine sorties were flown and 7,340 jin of seeds were sown on 10,000 mu in 9 hours and 24 minutes. An on-the-spot survey a week later showed that the result was satisfactory. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 26 Mar 81 OW]

CSO: 4007

BRIEFS

HUINAN COUNTY PADDY FIELDS--Huinan County, Jilin Province, increased 10,000 mu of paddy fields to its original size of 170,000 mu in an effort to increase paddy rice production this year. [SK231057 Changchun Jilin Provincial Service in Mandarin 1100 GMT 21 Mar 81 SK]

CSO: 4007

PROTECTION NEEDED FOR SEA FISHERY RESOURCES

Shenyang LIAONING RIBAO in Chinese 2 Jan 81 p 2

[Article by Yuan Guocheng [5913 0948 2052], Provincial Aquatic Products Bureau: "A Look at Protection of Ocean Fishery Resources in Terms of Food Fish Difficulties"]

[Text] The markets of the cities and countryside of Liaoning Province are currently extremely lively. But getting fish to eat is no easy matter; the yellow croakers, mullet, and Chinese herring of which the masses are so very fond are particularly difficult to buy. The people cannot help but ask: Is fish output too low? Or have all the good fish been exported? Or are they "being sold out the back door?" None of these. Fishery resources are on the decline.

Bohai and the Yellow Sea are the main fishing grounds for China's northern fishermen, and up until the end of the 1950's resources there were still quite abundant. But ever since the 1960's, a tendency toware decline has occurred in the major economic varieties of fish resources, and since the advent of the 1970's in particular, resources have seriously declined. The small yellow croakers and the hairtails, which were the fish most sought after in the Yellow Sea and Bohai, are now few and far between, and there is no longer a fishing season for them. The supply of black carp and chub mackerel, middle and upper level varieties of fish, is likewise very variable with fairly great fluctuations in output. Though availability of shrimp is relatively constant, it has not attained former levels.

Strange it is that just during the years of decline in resources, tremendous increase has occurred in output of aquatic products. Just why is this? Let us take a look at a comparison of the production situation in Liaoning Province during two separate 5 year periods. During the period 1956 to 1960 when resources were comparatively flourishing, 120,000 tons of various kinds of ocean fish were landed every year, and it was possible to supply 50,000 tons of economic fish as commodities for markets, which amounted to more than 40 percent of total catch. Figured in terms of total urban and country population, this averaged four jin of economic fish per person. But during the years 1970-1974, when resources seriously declined, ocean fish output averaged 200,000 tons, of which only 40,000 tons were economic fish. This amounted to 20 percent of total catch, or an average of only 2.5 jin of economic fish per person. This demonstrates that despite a several fold increase in total fish catches during the last 5 years, a striking decline has occurred in economic fish. Fish catches amount to large quantities of fish of low value, small miscellaneous fish of various kinds, and the young of economic fish. This state of affairs has developed out of the following causes.

First was a concentration of forces in the fishing grounds containing abundant resources in a war of annihilation in contravention of objective natural laws. The Shidao fishing grounds to the east of the Shandong Peninsula are an avenue over which all sorts of fish and shrimp must travel northward to spawn and sowthward to pass the winter. It is also a wintering over place for certain fish and shrimp. During the 1950's and early 1960's, fishing was done at a proper intensity when resources were plentiful, and annual output was maintained at between 40,000 and 50,000 tons. After 1970, large numbers of motorized junks from Liaoning, Tianjin, Hebei, and Shandong congregated there to intercept the schools of fish headed southward in late autumn and early winter for wintering over, and in early spring, they fished for schools headed northward for spawning. Fishing this way year after year seriously damaged resources. For Laioning Province alone, during the four winter seasons of 1972 to 1975, a total of 99,700 tons of fish of various kinds were brought in from these fishing grounds, of which more than 84,000 tons were small miscellaneous fish and the young of economic fish, which was 84.5 percent of the total fish catches.

Second was attention only to changes in the propulsion of non-motorized fishing ships to the neglect of improved fishing equipment and fishing methods, In the choice of fishing methods, lopsided emphasis was given to certain ways of doing things, thereby seriously damaging some kinds of fish resources. During the 1950's, Liaoning Province used 206 motorized fishing boats annually with a total of 18,800 horsepower. By the 1960's, this had increased to 882 craft with a total of 65,000 horsepower. With the motorization of large numbers of junks in the early 1970's, plus the new construction of some large and medium size fishing boats, the number of motorized fishing boats suddenly jumped to more than 5000 with 278,000 horsepower. Improvements through the motorization of fishing boats transformed the sculling of the primitive sailing junks, in a first major improvement in productivity that marked a heartening step forward along the road to the modernization of the fishing industry. However, we did not follow with the additional step of how to arrange the production of these fishing boats so that resources would be sensibly used. In a situation of obvious decline in resources, in particular, we continued with trawling along the bottom in coastal areas, thereby intensifying the destruction of resources.

But what actions should be taken to revive aquatic resources in the Yellow Sea and Bohai? First is a reduction in the intensity of ocean fishing. There are three ways of doing this. One is a forthright decision to cut back severely on the number of fishing boats and nets to solve the problem at its source. Though this method is a thoroughgoing one, it carries a series of hardships for some fishermen in their production and their lives, and is not easy to put into effect. Second is a decrease or elimination of the fishing gear and the fishing methods that seriously damage resources, with institution of diversified operations and an output of numerous varieties of fish. In this way both the supply of fishing products can be assured and it will not impair the earnings of fishermen, so it is practicable. Third is to refrain from fishing during the peak period of fish and shrimp reproduction and in the areas where young fish and young shrimp congregate, so that with the suspension of use of certain fishing apparatus at fixed periods of time, the resources will have a chance to recuperate and multiply.

While we are policing ourselves, we must also give attention to disruption occasioned by fishing forces arriving from abroad. At the end of every autumn when temperatures begin to fall, yellow fish and chub mackerel that have spawned and gone in search of food in the Yellow Sea and Bohai journey to deep waters in the eastern part of the Yellow Sea and Bohai to winter over. It is at this time that fishing boats from China, Korea, and Japan enter these ocean region fishing grounds for large scale catches of young fish. In the protection of these resources, it will do no good for China alone to make efforts; rather formulation of common protection measures will be necessary through agreements among governments or people in the fishing industry of each country.

At the present time, yet another tendency merits our serious attention. In their efforts to become prosperous, a small number of rural villages disregard the national and collective welfare to go fishing and shrimping at sea as they please. Individual leadership cadres who lack knowledge of such matters say that "there are plenty of small fish and small shrimp in the seas, and if you don't get them, they will only die," which only abets the evil tendency toward overfishing. According to statistics from pertinent authorities, during the July and August slack seasons in agriculture alone, more than 5 billion shrimp larvae are hauled in by hand-thrown nets by fishermen along the coast of Bohai. If these resources are not destroyed but allowed to mature, they would provide nearly 10,000 tons of output.

Revival of aquatic resources is no easy matter. It will require efforts over a rather long period of time to achieve results. But we firmly believe that only by acting in accordance with objective laws will the Yellow Sea and the Bohai be able to provide us with more abundant fishery products.

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BRIEFS

USE OF ELECTRICITY INCREASED--The program for readjustment of the national economy has prompted the rapid development of rural electrification in Liaoning Province. In 1980, the total quantity of electricity used in rural villages throughout the province amounted to 2.35 billion kilowatt hours, a 13.5 percent increase over 1979. This was the year of maximum rural village use of electricity during the past 30 years. Right now, the rural village electric grid boasts more than 173,000 kilometers of high voltage power transmission lines, and total capacitance of transformers is more than 4.6 million kilovolt-amperes. Rural electrically drained and irrigated areas cover more than 20 million mu, and new developments have also taken place in county, commune, and brigade, small thermal electric, small hydroelectric,aand methane gas electric stations. Electricity now reaches 99.6 percent of the people's communes, 98.5 percent of the prouuction brigades, and more than 94 percent of the production teams in the province, and 95 percent of rural households use electricity. A change has come about in the lack of electricity in rural villages. The development of electrification has transformed the conditions of agricultural production, has promoted agricultural production, and has transformed the material and cultural life of the broad masses of commune members. [Text] [Shenyang LIAONING RIBAO in Chinese 10 Jan 81 p 1] 9432

MORE PHOSPHATE FERTILIZER PRODUCED--Liaoning Province's chemical fertilizer industry system has actively readjusted the make-up of its products. Last year, phosphate fertilizer production was greatly stepped up in a gradual bringing into line of the proportional relationship between nitrogenous fertilizer and phosphate. Between January and November, provincewide output of chemical fertilizer increased 15.2 percent over the same period during the year before last. Of this total, nitrogenous fertilizer increased 5.9 percent, and phosphate fertilizer increased 140.7 percent. As a proportion of total chemical fertilizer production, phosphate fertilizer claimed from the 8 percent of the year before last to 17.5 percent. In recent years, Liaoning Province's nitrogenous fertilizer production has increased year by year, which phosphate fertilizer, the main element in crop growth, saw no corresponding development, and thus the contradiction of a lack of phosphate in the soil of Liaoning Province became more and more prominent. In order to correct this imbalance, the Provincial Petrochemical Bureau began, during the latter half of the year before last, to increase output of phosphate fertilizer. They assisted the Shenyang Smelting Plant recover sulfuric acid, increased the sources of ground phosphate rock, and last year recovered a total of more than 200,000 tons of ground phosphate rock as well as more than 60,000 tons of sulfuric acid to assure requirements for increased output of phosphate fertilizer. In the distribution of raw materials, 34 phosphate fertilizer plants with a rather good record of economic results received priority supply, and help was given enterprises to improve equipment and technology, and to strengthen management of enterprises for continuous improvement in quantity and quality of phosphate fertilizer output, and to reduce consumption of raw materials. [Text] [Shenyang LIAONING RIBAO in Chinese 5 Jan 81 p 1] 9432

COMMODITY GRAIN BASES IN LIAONING--Meriting serious attention has been the recent appearance of a gradual decline in remuneration among the economic benefits of agricultural production in the 17 counties (or areas) that make up the commodity grain bases in the central plain. On the sole basis of statistical data from 11 counties, the basic accounting units of rural people's communes show that agricultural income for each yuan of the 1960's to 2.50 yuan in the 1970's, for a decline of about 30 percent. The main reasons accounting for this situation are large amount of investment and low output value, which have caused constant rise in production costs relative to earnings, and a concommitant decline in economic benefits. According to statistics from 11 counties, agricultural production expenses as a proportion of agricultural income for basic accounting units in rural people's communes were as follows: 1962 - 1969, an annual average of 32.3 percent; 1970 - 1978, an annual average 39.4 percent. The 1970's saw a rise of 7.1 percent over the 1960's. [Excerpt] [Shenyang LIAONING RIBAO in Chinese 19 Jan 81 p 2] 9432

GRAIN PRODUCTION RE-EMPHASIZED--Development of agriculture requires, first of all, a good job in the growing of grain. Solving the problem of feeding more than 30 million people throughout the province is still the paramount task, which cannot be relaxed. Following the Third Plenary Session of the 11th Party Central Committee, the party's policies were put into place, and Liaoning Province had bumper harvests for several years in a row, and economic crops have also enjoyed fairly rapid revival and development during the past several years. This is a fine and encouraging situation. However, in individual places, because of an improper reduction in the area planted to grain crops, the consistent increase in grain production has been impaired. In formulation this year's production plans, some communes and production brigades have given no thought to soil conditions and have not taken into consideration the need for crop rotation. In a one-sided pursuit of output value, they have greatly upped the growing of economic crops by squeezing out grain fields. This tendency must be corrected. [Excerpt] [Shenyang LIAONING RIBAO in Chinese 19 Jan 81 p 1] 9432

TUSSAH SILKWORMS--Liaoning Province, China's major tussah silkworm cocoon producing area, last year produced a total of 1.03 million dan of tussah cocoons, a more than 20 percent increase in output over 1979, which was a year of bumper output. More than 80 percent of the autumn silkworms in the province were grown using the new technique of oviposit on a paper surface indoors, which produced per unit yields of 1146 jin of cocoons from each batch of tussah cocoons (autumn silkworms), to reach highest recorded levels. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 12 Jan 81 p 13] 9432

CSO: 4007

BRIEFS

HAIL SLICER--The Qinghai Provincial Meteorological Institute, the Lanzhou Institute of Plateau and Atmospheric Physics of the Chinese Academy of Sciences and Qinghai No 1 Radio Factory recently developed China's first semiconductor hail slicer to be used in analyzing the microstructure of hail. The Qinghai Provincial Scientific and Technological Committee, the provincial Meteorological Bureau and the provincial Defense Industry Office sponsored a meeting 17-19 March to assess the slicer and held that the slicer is up to standard and can easily be used outdoors. [SK231100 Xining Qinghai Provincial Service in Mandarin 2330 GMT 22 Mar 81 SK]

CSO: 4007

PERSONAL INCOME SOARS IN PRODUCTION BRIGADE

Jinan DAZHONG RIBAO in Chinese 6 Feb 81 p 1

[Article: "Xiaocunzhuang Production Brigade Per Capita Average Distributions Reach 926 Yuan"]

[Text] The Xiaochunzhuang Production Brigade of Wujiacun Commune in the suburbs of Qingdao has reported good news. Last year, this production brigade's distribution of earnings averaged 926 yuan per capita.

Ziaocunzhuang Production Brigade is a production brigade specializing in the growing of vegetables in the close-in suburbs of Qingdao City. The brigade numbers 280 households of somewhat more than 800 people. For the past several years, the brigade's CCP branch has guided the cadres and masses to engage in both agriculture and industrial sideline enterprises, to go in big for capital construction of farmlands, and to do scientific vegetable farming as a result of which vegetable output has steadily increased with yields last year reaching more than 20,000 jin per mu. The brigade also set up a foundry followed by a motorcar repair plant, thereby greatly increasing income. In 1978, income for the entire brigade totaled 1.42 million yuan, and per capita distribution averaged more than 400 yuan. Following the Third Plenary Session of the 11th Party Central Committee, the brigade party committee emancipated its thinking, carried out policies, actively improved management and administration, generally promoted specialized contracting, and a system of responsibility linking remuneration to production, which gave full play to the initiative of the masses of commune members, and sideline industry production developed further. Last year, total income from agricultural sideline industries operated by the brigade amounted to 2.19 million yuan. From a foundation of increased output and increased earnings, collective reserves in the form of accumulation funds and public welfare funds held by the brigade allowed distributions to commune members of 57.5 percent of net income for the entire year, for more than double the per capita average of 1978, and a 365 yuan increase over 1979. While commune member income increased and their lives became prosperous, they did not forget thrift and frugality, nor did they forget the country. Following conversion of distributions, everyone made careful calculations and, except for a small sum of money used to make miscellaneous purchases, they hurried to deposit their money in banks to support national construction. According to incomplete statistics, on 19 January, the day of the conversion of distributions, commune member savings deposited in the bank totaled 350,000 yuan for an average somewhat more than 1200 yuan per household. Commune member Zhao Xilin's [6392 1585 2651] family of six, four of whom are part of the workforce, received somewhat more than 9800 yuan as their share for the year, of which they deposited 6000 yuan in the bank.

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SPRING FARMING PREPARATIONS BEGIN IN SHANDONG

Jinan DAZHONG RIBAO in Chinese 7 Feb 81 p 1

[Article: "Spring Has Returned to the Good Earth; Take Preparations for Planting Firmly in Hand; Planting Preparations and Production Activities Wiedly Underway in Rural Villages Throughout the Province"]

[Text] In order to win a bumper harvest in agriculture this year, early attention and quick action have marked planting preparations and production activities across the rural villages of Shandong Province. Everywhere production plans have been formulated for the most part; inspection and improvements in various forms of a system of responsibility for production continue to be made; and special attention has gone to readying the seeds, fertilizers, and pesticides needed for spring production.

In the carrying out of their production plans, numerous locales and units have given attention to the unity of the microeconomy and the macroeconomy, placing grain output in paramount position. While making sure of steady increase in grain output, they have actively developed economic crops.

Heze Prefecture has made plans for 8 million mu of grain fields, a 300,000 mu increase over last year. Cotton will be planted on 2 million mu, an 800,000 mu decrease from last year. Changwei Prefecture has correctly pointed out that no decrease may take place in the grain area of each commune and brigade, and the area in which economic crops are grown may not exceed 30 percent of the total cultivated area. The area devoted to various crops has to be held relatively stable, and efforts made to increase per unit yields for a constant increase in total output.

Working from a summarization of last year's experiences, each jurisdiction has applied these experiences to reality for the implementation of various forms of a system of responsibility for production. Ninety percent of the units in Taian and Jining prefectures have already put into effect a system of responsibility for production, and in more than two-thrids of them the calculation of remuneration is linked to production. In the production of economic crops such as cotton and peanuts, Yishui county has instituted specialized contracts this year in which remuneration is linked to production. Both the workforce with whom the contracts were made and the land contracted to be worked are ready, and during the dead of winter, the masses began the deep ploughing and leveling of the land contracted for, the hauling of manure, and the application of fertilizer.

In their preparations for planting, each jurisdiction has also given attention to doing a good job of technical training to further increase the level of scientific farming. Liaocheng Prefecture provided technical training in spring season care of wheatfields and the sowing of cotton seeds for specialists above the level of commune farm technique stations. Changwei Prefecture plans to train 10,000 technicians, and has already trained more than 1000 of them, of whom more than 200 commune farm technique station chiefs have participated in prefectural training classes. Bin county has run training classes for county and commune cadres, the Women's Federation, farm technique station chiefs and cotton technicians, all of whom have responsibilities for cotton production. More than 300 people attended this training.

In order to do a solid job in this year's spring production, each jurisdiction prepared materials early, and every effort was made to push forward using every manner of means to seize the initiative. Of the more than 78 million cartloads of manure accumulated during the winter in Changwei Prefecture, 34 million cartloads have already been transported to the edges of fields. This prefecture has also readied 200,000 tons of chemical fertilizer, and has collected 9.75 million jin of plant ashes. Five-hundred sixty thousand jin of the fertilizer cake used to grow tobacco was used to set up 900,000 tobacco seedling beds for the planting of 310,000. Additionally, technicians were organized for a general large scale inspection of sweet potato planting to uncover problems and promptly solve them. Recently Huimin Prefecture convened a special conference on "two assurances in combating drought," which emphasized concentration of time and forces to clean silt from channels for diversion of the Yellow River as part of diligent preparations for soil moisture in spring fields and spring irrigation of wheat.

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CSO: 4007

RURAL CONDITIONS IMPROVED IN SHANDONG

Jinan DAZHONG RIBAO in Chinese 10 Jan 81 p 1

[Article: "A Good Situation Such as Has Not Occurred For Many Years Comes About in Shandong Province; Readjustments to Internal Structure of Agriculture and Implementation of Party's Economic Policies; Unprecedented Bumper Harvest for Cotton and Peanuts, and Grain Harvest Relatively Good; Total Collective Economic Income Increases by 17.5 Percent Over Year Before Last and Per Capita Distributions to Commune Members Average 20 Yuan Increases"]

[Excerpts] During the past year, Shandong Province's diligent implementation on the agricultural front of a readjustment of programs and the two Central Committee documents on agriculture, further putting into effect of the Party's various economic policies for rural villages, and the establishment and perfection of various forms of a system of responsibility for agricultural production have greatly aroused the work enthusiasm of rural cadres and the masses of commune members to carry forward an all around development of agriculture. A new situation of stability and unity, economic liveliness, a burgeoning of the markets, and jubilation in the peasantry such as has not existed for many years has occurred in rural villages throughout the province.

Although the province's summer grain harvest suffered a decline in output as a result of calamities; nevertheless, total grain output for the year was still second only to the bumper year of 1979. Cotton and peanuts saw unprecedented bumper harvests with total output of cotton being more than twice that of 1979, and the quantity purchased by the state exceeding 10 million dan. Peanut output also created new records with total output increasing 24 percent over 1979. New growth also took place in forestry, livestock raising, sideline occupations, and fisheries. The total annual area of afforestation increased by 1 million mu. Output of hogs, cows, and sheep reached 1.72 billion jin, a 300 million jin increase over the year before last. Total output of aquatic products amounted to 560,000 tons for a completion of plan in excess of quota. Total economic income for production brigades and production teams throughout the country is forecast as possibly being 17.9 percent higher than in 1979, and the ratio of expenses to total earnings is expected to decline 4 percent over the year before last. A relatively great increase may take place in levels of distributions to commune members with per capita income averaging about 100 yuan for an increase of about 20 yuan over the year before last. In Yantai Prefecture where the level of distributions have been fairly high heretofore, per capita distribution may average 170 yuan, an almost 10 percent increase over the year before last. In the four prefectures of Liaocheng, Dezhou, Heze, and Huimin in northern Shandong, per capita distributions may average more than 90 yuan, an 80 percent increase over the year before last.

According to incomplete statistics, during the past year the irrigated area throughout the province has increased by 1.54 million mu, and consistently high yields despite drought or flood can be assured on 940,000 mu of farmland. This brings the total irrigated land area in the province to 66 mullion mu, or an average 1 mu for every member of the population engaged in agriculture. Fields producing consistently high yields number 41 million mu, or an average 0.6 mu for every member of the population engaged in agriculture in effective increase in capabilities to combat natural calamities.

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SHANDONG

BRIEFS

FLATLAND AFFORESTATION--Shandong Province has scored achievements in planting trees over the plains area, which account for two-thirds of the province's acreage. By the end of 1980, a large number of forests over the 5 billion mu of flatlands throughout the province were successfully developed. Among them, timber forest bases account for 600,000 mu. The province has set up a network of shelterbelts to protect farmland over more than 37 million mu of flatlands, which account for 58 percent of the total provincial acreage of flatlands for such usage. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 21 Mar 81 SK]

GAOMI COUNTY AGRICULTURE--Jinan, 24 Mar (XINHUA)--In 1980, the average per-mu grain output in Gaomi County, Shandong, was 650 jin, 15 jin more than in 1979, and the county's average per-mu cotton output was over 100 jin, 45 jin more than in 1979. In 1980, the county sold 70 million jin of grain and more than 24 million of ginned cotton to the state. The county's total income from agriculture was 170 million yuan in 1980, an increase of 30 million yuan over the previous year. [Beijing XINHUA Domestic Service in Chinese 0712 GMT 24 Mar 81 OW]

COTTON FIELD PREPARATION--Jinan, 19 Mar (XINHUA)--Preparation for cotton growing is underway in Shandong's Changwei Prefecture. The 1.1 million mu of cotton fields have all been plowed. By early March manure fertilizer had been applied to 600,000 mu of cotton fields. [Beijing XINHUA Domestic Service in Chinese 0712 GMT 19 Mar 81 OW]

CSO: 4007

BRIEFS

SATELLITE PHOTOGRAPHS--Taiyuan, 22 Mar (XINHUA)--With the help of specialists, professors and engineers from the Beijing University, Nanjing University, Beijing Teachers University and five other institutions of higher learning, the Department of Agriculture in Shanxi Province has scored remarkable achievements in studying and interpreting satellite photographs covering 34,000 square kilometers of land in central Shanxi. Within a period of 3 months, it has completed, with high accuracy, the study of geology, agricultural conditions, pedology, the distribution of forests and grassland and other fields. At the invitation of the State Scientific and Technological Commission, 45 specialists, professors and engineers from 31 research units throughout the country have fully reaffirmed this remarkable achievement in the use of satellite photographs. [Beijing XINHUA Domestic Service in Chinese 0023 GMT 22 Mar 81 OW]

CSO: 4007

AGRICULTURAL RESEARCH IN SICHUAN RESULTS IN ECONOMIC BENEFITS

Chengdu SICHUAN RIBAO in Chinese 14 Jan 81 p 1

[Article from Science and Technology Department, Provincial Agricultural Academy: "Concentrate Forces to Take in Hand Major Research Projects; Provincial Agricultural Acadamy Thoroughly Readjusts Program; Major Scientific and Technical Accomplishments Numerous; Promotion in Use Rapid; Economic Benefits High"]

[Text] The Sichuan Provincial Agricultural Academy has diligently carried out a program of readjustment to give major support to key technical research projects for the acceleration of the development of agriculture in Sichuan Province. In the case of research for which conditions are not in being, or for which current technical or economic significance is not great, they have taken "slow down" or "stop" action. With a shortening in the research front and a concentration of forces, a survey of agricultural resources for 1980 shows major technical accomplishments on 17 projects involving zoning, crop breeding, bumper output farming, soil and fertilizer, plant protection, silkworm mulberry, tea, and fruit trees. These accomplishments have high economic benefits, and 13 of the projects have been promoted for use over large areas in agricultural production, and have been greatly welcomed by rural communes and production brigades.

In the area of crop breeding has been the Rice Institute's newly bred superior variety intermediate rice "2134," with rapid growth in the seedling stage, luxuriant growth, thick stems that resist lodging, large heads, numerous grains, and heavy grains, consistently high yields, quite good quality polished rice, and yields from large areas of more than 800 jin per mu with highs of 1,100 jin per mu, which is an increase of about 50 jin per mu over "Lushuang 1011." This new variety is currently being grown on more than 1 million mu of land throughout the province.

The Provincial Agricultural Academy undertook responsibility for the research task of a pilot zoning of agricultural areas in Guanghan County, which was conducted under the concrete guidance of the Provincial Zoning Office and the local CCP Committee, and took 1 year and 1 month to complete. Scientific and technical personnel from pertinent bureaus, research institutes, and institutions of higher learning from the province, prefectures, and counties were organized into 13 special fields of study, and pilot work teams were established to conduct investiagtion and research, and to make comprehensive assessment. From this effort a total of 13 separate reports of accomplishments were tendered, together with 23 pertinent diagrams. Following authentication by pertinent professional units and expert technicians at each echelon of leadership of province, prefecture, and county organized by the Provincial Agricultural Office and the Provincial Zoning Office, it was deemed in accordance with acceptance standards of county level zoning, and will provide scientific data for guiding agricultural production, for the readjustment of economic policies, and for the formulation of long term plans by each local leadership echelon in accordance with objective natural laws and economic laws. In order to put the zoning results to use at once, experiments were conducted last year on 72,000 mu in high yield planting techniques for intermediate hybrid rice for yields of 980 jin per mu, an increase of more than 150 jin per mu over convential varieties of intermediate rice. In the scientific application of fertilizer, from 30 to [illegible] jin per mu less of ammonium carbonate was used for a .01 yuan per jin of paddy decrease in production expenses, effecting a saving in costs and great effectiveness.

Bacterial blight is a serious new disease that has struck Sichuan Province for the last 10 years or so. It broke out with great force and caused great damage. The plant protection institute has substantially figured out the laws governing the outbreak and spread of this disease in Sichuan Province as well as the types of bacterial strains, their distribution, and the reaction of major varieties toward bacterial strains. It has also put forward bacteriophage methods and a handy method of monitoring and reporting the dominant meterological elements for forecasting the onset of the disease in the fields and the extent of seriousness of the disease during the period of its proliferation. It has experimented and distilled information about the varieties that will resist (or tolerate) the diaease in Sichuan Province as a beginning, how to control the sources of the bacteria, pesticide preventive measures and treatment measures employing management of water and fertilizer, which have been demonstrated and promoted in infested areas with striking results in the prevention of the disease. Following comprehensive prevention and control in the old infested area of Peng County, the diseased area dropped from the more than 110,000 mu of 1971 to somewhat more than 12,000 mu in 1980.

For the more than 30 million mu of red and yellow soil cultivated area of Sichuan Province, water and heat resources are abundant, and the commodity grain rate is quite high. The research into improved use of small plots of clay on the plain in the western part of the Sichuan Basin conducted by the Soil Fertility Institute made initial clarification of the distribution of small plots of clay on the plain in the western part of the Sichuan Basin, as well as of the types of soils, their physical and chemical properties, and the laws governing changes in their fertility, proposing a change from letting the wet fields lie fallow in winter to the rotational cropping with wet field and dry field crops to develop the growing of green manure and rape, and making increased applications of calcium, magnesium, and phosphate fertilizers to improve soil acidity. It also proposed deep plowing with rolling, opening of ditches to drain away water, and setting up a sensible system for irrigation and drainage as a means of bringing into harmony the conflict between the soil and moisture, and to improve the structure of the soil and its fertility. After these research results were promoted at Tumen Commune in Jiajiang County, grain yields rose from the 672 jin per mu prior to the promotion to 815 jin per mu. Jiajiang County is now making ready to promote the results further throughout the county this year.

In order to increase Sichuan's output of silkworm cocoons and reduce silkworm disease damage, the Silkworm Mulberry Institute repeatedly conducted both indoor and outdoor experiments following 4.5 years of sifting antiseptics for effectiveness. These experiments showed chloramine T lime slurry and use of chloramine T as a mist were extremely effective against five frequently occurring silkworm pathogens. It could be used not only in advance of the silkworms, but was also effective in sterilizing the bodies of the silkworms. It was neither toxic nor otherwise harmful to humans or livestock, did not pollute the environment, and was stable in its chemical activity. Formulation of the desired amounts was easy and accurate, and storage, transportation and care of it were simple. Quantities used for sterilization were small, and use was economical. When used last year in 19 counties and cities in the province, more than 10,000 sheets of paper on which the silkworms lay their eggs were disinfected, and an additional average 6 jin of silkworm cocoons per sheet was harvested, as compared with disinfection using bleaching powder, for a total increase in earnings from silkworm cocoons of more than 90,000 yuan.

Additionally, experiments conducted by the Provincial Agricultural Institute using bendasong [0058 6671 2646] to control several difficult to eradicate weeds, the control of pingming [5493 5820] and pinghuiming [5493 3500 5820], applications of boron on rape, and applications of zinc to corn, the use of male sterile hybrid heterosis in cotton, experiments and demonstrations of multiple techniques for high grain yields, new devices for the feeding of young silkworms, handy feeding techniques for adult silkworms, the control of Grapholitha molesta Busk, and such technical accomplishments were promoted for use in wide areas of rural villages. Presently all institutes and laboratories of the Provincial Agricultural Institute are diligently summarizing their research working during 1980, and are determined to honor the principle of closely combining scientific techniques and economic construction, and continued adherence to readjustment of policies in an effort to win new achievements this year.

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CSO: 4007

BRIEFS

LESHAN PREFECTURE SPRING FARMING--Leadership cadres in regions and counties of Leshan Prefecture in Sichuan Province have recently hurried to plunge into the front line of agricultural production to help communes and production brigades take in hand both care of winter crops and preparations to plant spring crops in an effort to win a bumper harvest in agriculture this year. This group of cadres who have gone to rural villages as well as the local cadres and commund members, have studied together solutions to problems in production. Leadership comrades in the prefecture CCP Committee realized that in six districts in Renshou County including Wengong, Fangjia and Beidou, fields are wet and weeds numerous with the results that some of the wheat and the rape was not growing well. They discussed means for a solution with comrades from the County People's Government as well as agricultural departments and organized the manpower and material resources necessary to launch an attack on field care for the winter crops, rapidly taking care of three kinds of crop seedlings growing on 200,000 mu throughout the county, cultivating once between the seedlings on more than 80,000 mu of land, and applying fertilizer as well. Prefecture and county cadres who went to the countryside also made the most of the opportunity to help communes and brigades do a good job of preparations for planting spring crops. Comrades from prefecture and county agricultural units actively organized cadres and commune members to learn the techniques of hothouse propagation of rice seedlings and helped with figuring amounts and buying the superior varieties, "Shanyou No 2," and "Aiyou No 1." The hybrid rice area in the prefecture will be increased from 960,000 mu to 1.6 million mu. Bank of agriculture and credit cooperative cadres diligently conducted surveys making timely loans of 5.36 million yuan to communes and brigades to buy plow oxen, farm implements, and seeds. Loans were 3.5 times the amount for the same period last year. [Text] [Beijing RENMIN RIBAO in Chinese 19 Feb 81 p 1] 9432

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BRIEFS

YOUTH AFFORESTATION--Young people of all nationalities in Xinjiang have scored marked results in afforestation. According to incomplete statistics from 8 prefectures, autonomous prefectures and municipalities, young people have, in the past 2 years, planted 58,650,000 trees in the drive to develop shelter forest, fuel forest, timber forest and economic forest. Forests planted by these young people account for 26 percent of Xinjiang's total forest area. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 22 Mar 81 OW]

AGRICULTURAL PRODUCTION--In 1980, Ili Tazak Autonomous Prefecture in Xinjiang reaped a total of 1.4 billion jin of grain. The prefecture also increased its cotton output by 100 percent; edible oil, 40 percent; sugarbeets, over 500 percent; and the number of livestock by nearly 100,000 head. The prefecture provided some 500 million jin of marketable grain, 6,000 dun of meat and 14 million jin of edible oil to the state. The per capita income of the prefecture increased from 142 yuan in 1979 to 151 yuan in 1980. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 18 Mar 81 OW]

CSO: 4007

BRIEFS

NAGQU LIVESTOCK BREEDING--Communes and production brigades in Nagqu Prefecture, Xizang, have taken reasonable measures to develop livestock breeding in accordance with their own actual conditions. Approximately 1.4 million head of old and weak livestock were eliminated through selection in 1980. Owing to incorrect guidance of some leading and planning departments in this prefecture over the past many years, blind pursuit of numbers only became a common practice among many communes and brigades in livestock breeding. Such blind pursuit also led to a shortage of fodder grass and a higher death rate of animals in this prefecture. Acting in accordance with the prefecture party committee's decision to control Nagqu's livestock in the neighborhood of 6 to 7 million head, measures were taken last winter to eliminate 16 percent of the prefecture's old and weak animals, which may not survive the cold winter weather. [OW170133 Lhasa Xizang Regional Service in Mandarin 1130 GMT 11 Mar 81 OW]

CSO: 4007

BRIEFS

INCREASED INCOME FOR PEASANTS--Following liberalization of rural economic policies in Yunnan Province, agricultural production in the long deprived and backward border nationality areas, and in high cold mountain regions within the province with a total population of 10 million people, rapidly developed; income of commune members of all nationalities increased remarkably, and life improved. For the past several years, authorities concerned in Yunnan Province conducted a comprehensive survey of the economic situation in rural villages throughout the province. They learned that in areas of the province with a population totaling about 10 million, annual consumption grain for commune members was less than 300 jin, and income was less than 40 yuan. These poor brigades were distributed mostly in the national minority areas along the border and in high and cold areas within the province. Thereupon, acting in the spirit of the Third Plenary Session of the 11th Party Central Committee, the Yunnan Provincial CCP Committee faced the facts and adopted one after another some special policies and measures for these areas. They reduced the public excess grain burden for the poor brigades to allow commune members of all nationalities to rehabilitate themselves. In accordance with local production levels, management levels, and the wishes of the masses, they adapted general methods to the local situations contracting for production with households in various forms of a system of responsibility for production. They liberalized private plots, household sideline occupations, and such "small freedom" policies. They readjusted the internal structure of agriculture, allowing advantage to be taken of of the local forestry and livestock industries provided efforts would be made toward gradual self-sufficiency in grain. They alloted special funds to support poor production teams. Implementation of these policies and measures quickly revived the vitality of agriculture in these deprived and backward areas. In 1980, tremendous increases were made everywhere in production of grain. According to statistics from authorities concerned, 21 of the 23 poor counties in the province won increases in agricultural output. [Text] [Beijing RENMIN RIBAO in Chinese 17 Feb 81 P 1 [illegible]

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ZHEJIANG

ZHOUSHAN FISHING GROUNDS TAKE MEASURES TO PROTECT RESOURCES

Beijing RENMIN RIBAO in Chinese 19 Feb 81 p 2

[Article by Correspondents Wang Zugao [3076 4371 7559] and Yang Mushou [2799 2606 1108]: "Heartening Changes Occur in Fishery Production. Zhoushan Fishing Grounds Take Readjustment Action to Protect Fishery Resources"]

[Text] Fishing industry readjustment programs emphasizing protection of fishing industry resources produced a heartening situation in Zhoushan fishery areas of Zhejiang Province during the winter fishing season last year such as has not been seen for many a year. Statistics for the period beginning 1 October and ending in December show output of 1.99 million dan of fish, a 10 percent increase over the same period the year before last. An increase occurred in the number of large hairtails weighing more than three liang that were caught, and the number of small miscellaneous fish sharply declined. Fish were found over a wide area, and were caught in fishing grounds where no fish have been caught for many years. Nets were full, usually with from around 10 to 20 dan of fish.

Zhoushan is China's largest fishing ground. This area annually provides the state with commodity fish amounting to about half the total amount of ocean commodity fish nationally. But for a long time, as a result of overfishing, these abundant fishing industry resources have been damaged. Since 1967 the output of the fishing industry throughout the area has fluctuated with no forward movement, and after 1974 it even declined year after year.

Following the Third Plenary Session of the 11th Party Central Committee, in order to adhere to "Regulations for Protection of the Breeding of Aquatic Resources", which had been promulgated by the State Council, Zhoushan Prefecture Fishing industry leaders took some actions for readjustment, firmly prohibiting bottom trawling operations that catch and kill young fish, and a step by step revival of a group of traditional ways of catching fish. Simultaneous with this action, they actively promoted advanced fishing techniques, developing some lighted purse seines. By last year the area had 196 lighted purse seines, an increase of 80 over the year before last. They also strictly instituted prohibited fishing areas and prohibited fishing seasons. They stipulated no taking of large yellow croakers in the harbor during April and May so as to assure normal spawning and reproduction. The 3 months of July, August, and September were for the repair of boats, nets, and tackle. It was forbidden to fish or kill hairtails within a prohibited fishing line. Standards were also set for the size that could be taken in accordance with the laws of growth of each variety of fish.

The Zhoushan fishing grounds have also readjusted the structure of fishing operations, appropriately regulating fishing forces. Throughout the prefecture, motorize junks carrying nets were reduced from the former 1,400-odd to somewhat more than 1,200. Some of the retrenched motorized junks engaged in traditional operations, while another portion were transferred to rear area work in the fishing industry breeding ocean fish.

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NEW RECORDS SET IN LIVESTOCK PRODUCTION

Hong Kong ZHONGGUO XINWEN in Chinese 5 Jan 81 pp 4-5

[Text] The number of hogs, sheep, and rabbits raised in Zhejiang Province in 1979 created the highest recorded levels for the province. Total output of pork, beef, and lamb amounted to 1.35 billion jin.

Between January and October this year, state procurement of live hogs in Zhejiang totaled 10.08 million head, a 13.4 percent increase over the same period last year. Output of beef, pork, and lamb totaled 1.189 billion jin, or an average 31 jin for every person in the entire province.

Zhejiang is one of China's advanced provinces for the growing of livestock with a total output value for livestock more than five times that of Tibet and Qinghai, more than two times that of Xinjiang, and 1.8 times that of Nei Monggol.

During the past several years, all around development has occurred in Zhejiang's livestock industry. The extent of growth in herbivorous livestock has been relatively great, and development of poultry and bees has also been relatively large for the emergence of a thriving situation in the six domestic animals [pig, ox, goat, horse, fowl, and dog]. In a comparison of 1979 with 1978 in the quantity of commodity livestock purchased by the state in Zhejiang Province, live hogs showed an increase of 59 percent; beef cattle and sheep increased threefold; poultry increased by 33 percent, and fresh eggs increased 1.2 fold. Young Hu [3275] lambskin, which enjoys a high reputation in international markets, also greatly increased.

Quantity of output of rabbit fur in Zhejiang Province was second only to Shandong Province for second place in the country. Income from beekeeping amounted to one-eighth the national total from beekeeping.

Zhejiang Province's institution of a reward policy linking grain and fertilizer to be maintained for 20 years without change aroused the enthusiasm of the peasants for raising hogs. In 1979, every commune member household in the province averaged 3.53 pigs, and in the 10 counties of Jiaxing Prefecture, the average per commune member household was 6.1 head. Because grain was plentiful and feeding good, the feeding period for hogs was shortened, and the 1979 slaughter rate rose 26 percent over 1976.

Zhejiang Province has a substantial variety of domestic livestock and poultry, including the famous Jinhua pigs used for making preserved hams, the Jiaxing pigs with a high fecundity rate, the fine quality wool sheep called Hu [3275] sheep, Xiaoshan chickens with their tasty meat, white-feathered bird-boned chickens with quite high medicinal value, and Muscovy ducks with their plump flesh. These varieties have gained the serious attention and protection of every jurisdiction, and they have begun to develop.

9432
CSO: 4007

BRIEFS

RUIAN COUNTY SUGARCANE PRODUCTION--In order to insure a good harvest this year, commune members in Ruian County, Zhejiang, have applied additional fertilizer to the county's 23,000 mu of sugarcane fields. [OW271031 Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 25 Mar 81 OW]

PUTUO COUNTY FISH PRODUCTION--Fish production in Putuo County, Zhejiang, has increased as a result of introducing the system of responsibility in fishery production. The county's average fish output in 1979 and 1980 remained at 3.5 million dun annually. The county's total income from fishery in 1980 exceeded 83.6 million yuan, an increase of 10.5 percent over that in 1979. [OW271031 Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 25 Mar 81 OW]

CSO: 4007

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TITLE: "Preliminary Study on the Grouping and Classification of Corn Self-fertilization Lines"

SOURCE: Zhengzhou HENAN NONGLIN KEJI [HENAN AGRICULTURAL AND FORESTRY SCIENCE AND TECHNOLOGY] No 6, 10 Dec 80 pp 2-5

ABSTRACT: The study confirms the existence of a uniform coordination relationships among the self-fertilization lines of corns, which can generally be classified into three groups. The select breeding of combination between these groups was found to have increased the probability of yield by 9.2%, and increased efficiency of yield by 5.2% than those from inbred and outbred breeding. However, success of such group selection should be based on truer genetic foundation, more outbred relations, and stronger self-fertilization lines of mutual coordination relationship.

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TITLE: "Study on the Forecasting and Prediction of Corn Borers (I)"

SOURCE: Zhengzhou HENAN NONGLIN KEJU [HENAN AGRICULTURAL AND FORESTRY SCIENCE AND TECHNOLOGY] No 6, 10 Dec 80 pp 13-16

ABSTRACT: Based on the least square relationships between the statistics of the accumulated temperature in the various districts of Henan province, and the various stages of development of corn borers relative to temperature, the author develops a system that divides the various corn producing districts in the province into 1-2, 3 and 3-4 generations of corn borer occurrence, relative to their respective accumulated temperature and topographical characteristics, as a means of corn borer forecasting and prediction. When checked with the data of 17 other provinces, the generality was 87.5%. The datum were provided by the Henan Provincial Statistics Committee, various meteorological bureaus, agricultural bureaus and agricultural research laboratories. The article is to be continued.

Agricultural Sciences

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TITLE: "Problems of Residual Pesticides in Henan Province"

SOURCE: Zhengzhou HENAN NONGLIN KEJI [HENAN AGRICULRURAL AND FORESTRY SCIENCE AND TECHNOLOGY] No 6, 10 Dec 80 pp 18-19

ABSTRACT: Pointing out the seriousness of pesticide pollution, especially thoseof organic chloropesticide as DDT and 666, in Henan province, the authors stress the urgency of prohibiting or limiting the use of highly toxic and residulous pesticides, establishing safe interval period of pesticide application, controlling the dosage, concentration, frequency, and methods of application of pesticides, and developing and promoting highly efficient, low toxicity and low residue new pesticides.

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